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THE LABORATORY DIAGNOSIS OF HUMAN LEPTOSPIROSIS*

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Any connection between human leptospirosis and a symposium on diseases of the chest may seem remote. However, I would imagine that those physicians concerned with chest diseases, and internal medicine in particular, see as much undiagnosed human leptospirosis as any other specialty. The protean characteristics of this disease have undoubtedly contributed much to its lack of recognition as a cause of human illness.[1, 2] The disease in man exhibits many degrees of severity, varying from symptoms so mild as to be ignored by the patient, to the more serious illnesses with deep jaundice exemplifying classical Weil's disease. Conjunctivitis may be a prominent and sometimes almost pathognomonic symptom. The central nervous system may be involved, and leptospiral etiology of some cases of benign aseptic meningitis seems to have been well established. Although jaundice may be evident in from two to three days, it has been estimated that over half of the human cases never exhibit visible jaundice. It also seems apparent that the severity of the disease, as well as its various manifestations, may vary widely in different areas and in different outbreaks. There is still no good evidence for satisfactory chemotherapy for leptospirosis. Many antibiotics have appreciable activity **in vitro,** but clinical trials would not lead one to expect dramatic results from any antibiotic therapy, except in the unusual patient who received the drug within the first day or two of illness.

These organisms gain entrance into the human host through mucous membranes, following the ingestion of contaminated food or water or by direct contact,[1, 2] and we now have evidence that ticks are capable of transmitting these leptospirae.[3, 4] The human population contracts the infection by direct

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or indirect contact with a great variety of domestic and wild animals, which function as the natural reservoir. Thus, the control of human leptospirosis will depend upon its control in animal populations.

The first case of human leptospirosis was described in 1886 by Weil, although it was not until 1915 that Inado and Ido isolated the etiologic agent, **Leptospira icterohemorrhagiae.** The first human case in the United States was reported in 1922 in a laboratory worker, and only 113 cases had been reported by 1941 and 228 cases by 1948.[1] There is no question but that the medical and economic importance of this disease in man and animals has been grossly underestimated in this country. Leptospirosis in swine, cattle and dogs, as well as wild rodents, is widespread and constitutes a problem for the veterinary profession as well as probable source of human disease. Between 1952 and 1954 more than 3,000 cattle and swine herds in 92 Illinois counties were tested for leptospirosis,[5] and 77 of the 92 counties were found to have infected herds. Of the cattle and swine herds tested, about one out of every three reacted; and of the individual animals in these herds, about one out of every six reacted. The potential threat of this disease to the livestock industry, and to humans who come in contact with it, becomes more pronounced when we realize that the first case of leptospirosis in cattle in this country was described just 15 years ago. The time has passed when human leptospirosis can be considered a disease confined to a few select occupational groups.

The incidence of human leptospirosis is difficult to estimate because of the great variety of clinical symptoms and the difficulty in establishing a diagnosis, which can usually be accomplished only by means of help from the bacteriologic laboratory. It is also evident that the bacteriologist can be of little help to the physician during the first week of this illness. Undoubtedly, the number of cases reported have depended, and will in the future depend, upon the diligence used in searching for the disease together with available laboratory facilities for its serological detection. Four years ago a report from this laboratory described the results of a survey of over 500 randomly selected human sera from eastern South Dakota,[6] in which 3.2 per cent of these human sera showed appreciable agglutination titers to one of three testing antigens. This of course did not mean that 3.2 per cent of the people had leptospirosis at that time, but they probably experienced the organisms at some time during the previous year or two. Since then, we have established serologic diagnoses for four acute human cases in eastern South Dakota, and Jellison[7] has reported an outbreak of human leptospirosis involving at least 3 of 10 men after swimming in the Grand River near Wakpala, South Dakota.

The laboratory diagnosis of leptospirosis depends upon either various serologic tests performed on serum specimens, or the demonstration of leptospirae in the blood or urine by bacteriologic or microscopic means[1, 2, 8] (Table 1). Serologic tests are by far the most commonly used procedures. It is usually easier to obtain circumstantial evidence of leptospiral infection by serologic tests than by procedures used to demonstrate the leptospirae themselves. However, serologic results must be interpreted as in the case of any bacterial infection, and are seldom conclusive in themselves. A certain percentage of the population will normally have leptospiral antibodies, therefore serologic tests on two serum samples collected during the acute and convalescent phases of illness are always of much greater diagnostic significance than any single serum titration. Of the three serologic tests listed, complement-fixation procedures are the least commonly used. They are more difficult to perform and offer little advantage over the other two tests. The most commonly used serologic test is the agglutination test, either the microscopic or

TABLE I

Laboratory Diagnosis of Leptospirosis

I.	Serology on paired serum specimens
	A. Agglutination test
	1) Microscopic
	2) Macroscopic plate
	B. Hemolytic test
	C. Complement-fixation
II.	Demonstration of leptospirae
	A. Cultivation from blood and /or urine
	B. Darkfield on urine

rapid macroscopic plate test. The microscopic test was most widely used until the last year or two, although it has some disadvantages in requiring the use of a microscope and the use of living leptospirae which is often hazardous to the operator. Within the last few years useful macroscopic leptospiral antigens have become generally available, especially the rapid macroscopic plate antigens of Galton[9] and Stoenner[10] and the capillary antigen of Stoenner.[11] The rapid macroscopic tests are easier to perform, but the titers obtained are usually lower than those obtained with microscopic tests.

At the present time classification of the leptospirae is somewhat confusing and to some degree resembles the taxonomic status of the genus **Salmonelia.** A few years ago the pathogenic leptospirae were considered to be **L. icterohemorrhagiae,** having a main reservoir in rats, and **L. canicola,** having its main reservoir in dogs. We now know that **L. pomona** is widely distributed in the cattle and swine population. In addition to these three species, we know that five additional species or serotypes occur in North America:[1] **L. bataviae, L. autumnalis, L. ballum, L. pyrogens,** and **L. hebdomadis;** and there is serologic evidence for the occurrence of **L. sejroe, L. gryppotyphosa, L. australis A,** and **L.** mitis.[2, 12] There are now about 60 serotypes or species of leptospirae known to exist throughout the world,[2] each of them being antigenically different. The agglutination test is type-specific and in some instances group-specific, so that a battery of at least 17 different agglutinating antigens is required in order to insure the detection of antibodies in a patient's serum produced against any one of the known serotypes.[13] The performance of 17 different agglutination tests on paired serum samples from one patient in order to rule out the possibility of leptospirosis is of course not practical. The usual procedure is to set up agglutination tests against **L. icterohemorrhagiae, L. canicola,** and **L. pomona,** or to use one of the commercial antigens representing a pool of a few serotypes, especially those which would detect antibodies produced against those serotypes known to occur in North America. Although practical, this procedure may actually retard our knowledge of the distribution of this disease; because if we confine our diagnostic antigens to those serotypes which are known to be present, we are not apt to detect serologic evidence for any of those which are not known to occur in this country.

In creased interest in leptospirosis in the last few years has directed attention to the need for a safe, serologic test that could be readily performed by the diagnostic or public health laboratory, and that would be genus-specific, or detect antibodies produced by any of the leptospiral serotypes. In 1955 a report from this laboratory described a hemolytic reaction which involved the ability of leptospiral extracts to sensitize sheep erythrocytes to hemolysis in the presence of leptospiral antiserum and complement.[14] Although this hemolytic reaction as first reported was broadly-specific and safe in operation, the preparation of the antigen was hazardous, in that it was prepared from cultures of **L. pomona,** and the procedure was not simplified with respect to standardization of reagents for routine performance. Subsequent reports in 1957 described the preparation, standardization and stabilization of this antigen from the so-called non-pathogenic **L. biflexa** and evaluated its use in human leptospirosis.[13, 15]

The hemolytic test was subjected to an extensive evaluation with 46 different serotype rabbit antisera, from which it was shown that the hemolytic test was genus-specific employing the one antigen, giving titers on the average as high as the type-specific agglutination test employing homologous antigens. An extensive evaluation was also carried out with 455 sera from 190 proved human cases of leptospirosis in Malaya, representing at least 24 different serotype infections. These cases were proved by cultural recovery of the leptospires from 79 of the 190 patients and by demonstrable increases in agglutinin titers of 4-fold or greater between acute and convalescent serum samples, or by disclosure of agglutinin titers of 1:400 or greater in a smaller number of isolated convalescent samples. Typical agglutination and hemolytic titers in serial serum samples from three of these human cases are shown in Table 2. Hemolytic titers appeared as early and reached somewhat higher levels than microagglutination titers. Furthermore, appreciable hemolytic titers persisted for over a year following infection.

TABLE 2

Typical Agglutination and Hemolytic Titers Observed in Serial Serum Samples From Proved Human Cases of Leptospirosis in Malaya*

Infecting Serotype	Day of Disease	Hemolytic Titer	Micro-Agglutination Titer**
L. celledoni	4	—†	—‡
	16	4,000	400
	37	1,000	400
	455	100	—
L. wolffi II	4	10	—
	12	100,000	1600
	94	4,000	400
	499	1,000	400
L. grippotyphosa AB	3	—	—
	13	10,000	400
	24	4,000	400
	77	100	100

*Cox, C. D., Alexander, A. D., and Murphy, L. C.: Journal of Infectious Diseases **101** (1957) 210-218.
**Titer against homologous strain.
†Negative at 1:10 dilution.
‡Negative at 1:100 dilution.

Table 3 shows the distribution of hemolytic titers of these 455 human sera by day of disease, and this again demonstrates the generic-specificity and marked sensitivity of the hemolytic procedure. Positive hemolytic reactions increased from 5 to 86% from the 3rd to the 10th day of disease with 100% showing reactivity on the 11th to 20th day, with a mean titer of over 1:4000. Approximately 93% of the convalescent sera showed a distribution in the hemolytic titer range of 1:100 through 1:100,000. Titers reached a maximum generally between the 11th and 14th day of disease, after which they declined gradually to the point where residual titers of 1:100 persisted for more than one year. Hemolytic and agglutinating titers appeared to be directly related with the hemolytic-reactive antibodies generally appearing a few days earlier and generally reaching a higher maxiumum level. Further hemolytic tests on 72 human sera from a healthy population and from 107 patients with a variety of diseases other than leptospirosis revealed the

TABLE 3

Distribution of Hemolytic Titers of 455 Serums from 190 Proved Cases of Leptospirosis by day of Disease.*

Day of disease	Number of serums showing Hemolytic Titer**								Total	% showing hemolytic titers	Geometric mean titer**
	neg.	10	40	100	400	1000	4000	—4000			†
2	6								6	0.0	1
3	18	1		1					20	5.0	1
4	25	6	2	2	2	1			38	15.0	4
5	14	7	5	6	1	4			37	62.3	13
6	13	3	2	7	4	2	1	3	35	62.8	33
7	3	2	2	5	2	3		2	19	84.3	93
8-10	3			1	2	11		5	22	86.3	672
11-20		2		4	4	48	26	95	180	100	4337
21-30			1	3	1	11	6	4	26	100	1282
31-60			1	5	5	16	4	5	35	100	1236
61-90				1	1	7		1	10	100	912
91-120				1	1	2	1		5	100	692
151-180			1		1	1			3	100	252
181-356		1		7	2	1			11	100	129
357-500			2	5		1			8	100	106

*Cox, C. D., Alexander, A. D., and Murphy, L. C.: Journal of Infectious Diseases **101** (1957) 210-218.
**Titers expressed as reciprocals.
†Negative titer arbitrarily assigned a value of 1.

absence of hemolytic antibody titers of over 1:100, confirming the general specificity of this reaction.

There seems to be little doubt that the hemolytic test is a useful diagnostic and epidemiologic tool in human leptospirosis. It has the obvious advantage of being capable of detecting antibodies produced against any of the leptospiral serotypes and of being safe in operation; it has the disadvantage of being somewhat more difficult to perform than the usual agglutination test, although it is easier to perform than the usual complement-fixation test. Hemolytic antigen has been stabilized in the lyophilized state and has been distributed upon request to the World Health Organization reference laboratories and various domestic laboratories. Preliminary evidence would indicate that this test may also be useful in the control of bovine, swine, and canine leptospirosis,[18] and studies along this line are in progress in various laboratories. If the hemolytic test should prove to be valuable in animal leptospirosis, it would be of even greater importance since lptospirosis is primarily a disease of animals.

Time does not permit description of the more exacting techniques of demonstrating leptospirae from blood or urine of infected patients.[1, 2, 8] Demonstration of leptospirae in urine during the second and third weeks of the disease by darkfield examination has been used in the past, but the value today of darkfield examinations on urine largely rests with animal leptospirosis. The value of darkfields on human urine is apparently confined to the more severe forms with extensive renal damage.

In humans, demonstration of leptospirae from blood or urine of infected patients has largely depended upon cultivation of these organisms from body fluids by obtaining growth in fluid medium either from the blood of the patient, or from the blood of experimental animals inoculated with blood from the patient. These cultivation techniques have been fairly satisfactory when working with non-contaminated body fluids and tissues. However, contaminated urine, for example, could not be inoculated directly into fluid medium without obtaining overgrowth of the contaminant. Contaminated body fluids would necessitate passage through experimental animals before attempted cultivation. Differences in susceptibility of experimental animals to various leptospiral serotypes has also contributed to diagnostic difficulties in the laboratory.

Most bacteriologic laboratories have experienced persistent trouble with contaminants in their leptospiral cultures, which was understandable in view of the fact that these organisms had never been grown in isolated colonies until 1957. Two years ago a report from this laboratory described techniques for the isolation of these organisms as colonies on a fairly simple laboratory medium.[16] This finding has permitted laboratories to purify their stock cultures and to perform the more classical microbial studies on the leptospirae. A subsequent report in March of this year has presented evidence indicating that these colonies result from the growth of single cells.[17] This has permitted the construction of growth curves and the calculation of generation times. Evidence has also been presented which indicates the possibility of using streak plates for isolation of these organisms directly from infected body fluids and tissues, and for measuring the level of leptospiremia in infected patients. Studies presently in progress are aimed at resolving the significance of the various colonial types of these organisms. It would seem that our ability to colonize these organisms may bring the bacteriologic diagnosis of leptospirosis into the realm of possible contributions of the usual hospital laboratory.

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OBSERVATIONS ON THE PROBLEM OF ATOPIC DERMATITIS*

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Introduction

While it is generally agreed that the eczema group of dermatologic disorders is one of the most common seen in medical practice, it remains the thorn in the side of many physicians who might prefer to treat an illness with clearly defined etiology, together with rapid, dramatic and permanent cure. It would seem superfluous to add that the patient or his parents share an even greater sense of frustration for nearly the same reasons. In this paper it is not to be hoped that any fundamental inovation to this subject will be introduced but rather to review the author's own approach to what little knowledge is available on this very perplexing subject.

Definition and Description

Eczema is a word derived from the Greek meaning, "to boil out," which has some merit at least in being a colorful description. Beyond this advantage and that of common usage there is little to recommend its acceptance. We agree with Pillsbury[1] who summarizes the problem by stating, "The word eczema has never been satisfactorily defined clinically, has different interpretations in different countries, has gradually lost its medical significance, and has become a catchbasket for many types of chronic dermatitis." However, as with so many terms in medicine, we are stuck with it until something better comes along and it would be desirable to seek as much order out of confusion as possible. The term "eczematoid dermatosis" embraces a wide group of more or less chronic, inflammatory skin disorders and there are well over one-hundred terms containing the word dermatitis, dermatitic, eczematous and eczematoid in use today.[1] Furthermore, one should accept the term only as a morphological description similar to headache, backache, etc. As a descriptive term it is used to define a group of inflammatory skin conditions characterized by erythema, oozing or vesiculation, crusting and scaling, and finally by lichenification and/or hypo or hyperpigmentation. While these lesions most typ-

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ically involve the face and flexoral surfaces of the elbows and knees, no areas of the body are immune.

Despite lack of evidence from the immunologist or pathologist that irrefutable differences exist between sub-groups of this type of lesion, it seems necessary to accept the term eczematoid dermatoses for the advantage of some clinical orderliness. Sulzberger[2] divided these diseases into four groups including:

(1) Atopic eczema
(2) Contact dermatitis
(3) Seborrheic dermatitis
(4) Bacterial or mycotic dermatitis

Finally, because we are left with such an array of conflicting definitions and classifications, we would agree that "eczema is what looks like eczema."[2]

ECZEMATOID DERMATOSES -CLASSIFICATION-

SULLZBERGER

1. ATOPIC ECZEMA
2. CONTACT DERMATITIS
3. SEBORRHEIC DERMATITIS
4. BACTERIAL OR MYCOTIC DERMATITIS

HILL

1. SEBORRHEIC DERMATITIS
   -a- ERYTHRODERMA DESQUAMATIVA
2. ECZEMATOID FUNGUS INFECTIONS
3. NUMMULAR ECZEMA
4. CIRCUMSCRIBED NEURODERMATITIS

THE ALLERGIC DERMATOSES

5. CONTACT DERMATITIS
6. ATOPIC DERMATITIS
   -a- ATOPIC ERYTHRODERMA

Atopic Dermatitis

Time permits only a discussion of one segment of this broad group of diseases known as the eczematoid dermatoses, and because of its particular importance in the pediatric age group, atopic dermatitis has been selected for more thorough discussion. This seems appropriate since perhaps seventy-five percent of all eczemas in childhood fall under this classification.[5] This includes disorders variously defined as infantile eczema, Besnier's prurigo, disseminated neurodermatitis, etc. While the word atopic infers an immunological etiology, this basis cannot always be established and it is accepted that many factors are involved, including allergic, infectious, psychic, physical, hormonal, and many unknown factors.

The etiology of atopic dermatitis has remained controversial for decades, being proclaimed an allergic disorder by many and vigorously denied by others. It would appear that the preponderance of evidence favors an immunologic foundation upon which many complicating factors are capable of operating, at least in infants and young children. Furthermore, repeated statistical observations would confirm that once the allergic diathesis has been activated in the form of eczema, somewhere between fifty and eighty percent of patients will proceed to other allergic disorders over a variable length of time.[3] Baer states that as many as eighty percent of eczema patients have personal or family histories of atopy and that most show other abnormalities such as vasomotor or hormonal imbalance. These include such phenomena as (1) sweat retention syndrome, (2) histamine flush in typical atopic sites, (3) white dermagraphism, (4) flattened glucose tolerance curve, (5) low blood pressure, (6) acetylcholine sensitivity, (7) hypopigmentation, (8) ichthyotic skin, (9) cataracts or keratoconus, (10) keratoconjunctivitis.[4] For the progression from dermal to respiratory symptoms, Ratner has suggested the term "allergic march" which serves to emphasize that once an individual has been created with allergic potentialities his chances of retaining this potentiality are excellent, first in one form and later in others.[3]

Course

The course of this condition is variable and fluctuating. The most common age of onset is in the three to six month age level but also frequent in the first three months of life. After six months of age, it is progressively less common to see the inception of atopic dermatitis, although no age is immune. Typ-

ically, there is some subsidence of the more violent phase of the disorder by three years of age but many retain some residual evidence, usually in the form of flexoral involvement. Some cases show complete clearing during late childhood only to return in the mid twenties which is strikingly similar to the course of some respiratory allergies. Furthermore, during the acute phase of atopic dermatitis there are frequent and profound variations in the intensity of involvement, depending upon dietary, infectous, psychic, physical, endocrine and unknown factors primarily acting upon the vascular, autonomic, and sweat gland functions of the skin. In the last analysis, the latter are the determining factors in atopic dermatitis.

The physician caring for such problems should warn the parents or patient of this natural evolution of the disease in order to gain their confidence and cooperation but in more important terms, should himself remember these facts in evaluating any therapeutic efforts. So many factors are operating at once that it is sometimes difficult to evaluate the full importance of any one of them.

Specific Etiologic Factors

Specific antigen-antibody reactions are present in at least the majority of cases of eczema.[3] These factors are necessary to load the "allergic gun." Once this has occurred, many specific and non-specific factors may pull the trigger to precipitate activation or exacerbation. Sensitizing factors may include exposure to fods, dusts, pollens, bacteria and many others. Non-specific factors include a host of excitants such as emotional distress, trauma to the skin, heat, chilling, etc. Local care alone is sufficient to successfully manage many cases, particularly if mild but, in our opinion, best results might be anticipated when all possible excitants are accepted, understood and used in any program of management. This is particularly true in severe cases. It is at this point that the allergist separates from the path of some of his colleagues in the fields of dermatology and psychiatry. The allergist contends that local care and proper dermatologic concepts are of the utmost importance and accepts the role that psychic disturbances play in any chronic illness. He differs, however, from these colleagues in believing that there are still other probably more fundamental aspects to be solved before resolution of the disease can occur. Often the most important of these are allergic factors. In this regard there seems to be marked variation in opinion among dermatologists regarding the importance of antigen-antibody reactions in this group of lesions. There seems to be a considerable sectional difference of opinion since many in the East are quite in agreement with the allergic philosophy while those in the middle West and West seem to prefer the psychosomatic philosophy. At this point, I should like to interject that it seems to this author that the term should read somatopsychic. Should this change be adopted to illustrate the fact that any chronic disease will result in psychic disturbances but not necessarily are the basic causes of the chronic disturbance, I feel sure that allergists, dermatologists and psychiatrists would find a more common foundation for discussion.

Regarding specific etiologic allergens, it is generally felt by allergists that foods play a primary role in atopic dermatitis in infants and small children while inhalants or contactants become more important with increasing age. Ratner,[3] however, has warned that we may be giving too little attention to the problem of inhalant factors even in the infancy period. Lack of successful management in these early years may be due to our neglect of these important etiologic possibilities.

Regarding foods, it seems quite generally agreed that the following are of major importance but there is considerable disagreement regarding the order of their importance. (1) Egg, (2) milk, (3) cereal grains, (4) fish, (5) citrus fruit, (6) legumes, (7) nuts, (8) tomato, (9) meats, (10) chocolate.

While some or many of these foods may play a major role in any case of atopic dermatitis, particularly in young infants, they probably decrease in importance with increasing age. Some sensitivities may be retained through much of life. Egg, fish, nuts and seeds are examples of such sensitivities. However, Hill states that ninety percent of food sensitivities are lost by five years of age.[5] While we are in the process of surveying our own cases of infantile and juvenile eczema, we are not yet able to refute this statement but feel the figure is much too high. Many food sensitivities violent in early

infancy may lead to a more subtle reaction with age causing some difficulty in diagnosis.

Morris[6] recently has emphasized the continuing importance of foods in the etiology of atopic dermatitis while Ratner has emphasized the importance of inhalants even in the very young child.[3] The conclusion seems inevitable that all factors must be considered in the etiology of this baffling condition and at all ages. In our opinion, this requires adequate investigation of all but the mildest cases in order to seek satisfactory explanations followed by appropriate treatment.

Eczema surely may be caused or at least exacerbated by the inhalation of certain air borne allergens. Eczema has been described as asthma of the skin and it would seem unlikely, therefore, that allergic factors producing one would not produce the other. Inhalant factors may be in operation at an extremely early age as previously mentioned or may require years of exposure to express themselves in clinical reaction. It is fairly common, for example, to see a patient whose eczema once exacerbated in the winter time begin to have improvement at that time of year and acquire flare-ups during specific pollen seasons. This situation requires little diagnostic acumen and can be proved to most people's satisfaction by skin testing and appropriate hyposensitization treatment. The situation with animals danders, however, may be a little more complex. On occasion, one may obtain the history of immediate flare-up following contact with cats or after emptying a vacuum cleaner but eczema frequently differs from respiratory allergy in the time required for obtaining a reaction. Following exposure, the reaction may be delayed for many hours. Unless the physician is appraised of this possibility and the patient warned, both will be unable to assess the importance of such exposures.

Household dust probably is an extremely frequent inhalant factor in infantile as well as juvenile eczema although we do not even know what it is. For our purposes, it may be defined as the allergic factors in a composite of degenerating products of cloth, animal danders, molds, mollecular food particles, and substances unknown. It more likely precipitates trouble in the winter months, particularly when the furnace is first put in operation, but is not always limited to this period. Certainly, there is no reason why it may not act perennially. It is also felt that household dust may frequently act as a contact factor although proof is difficult. Certainly, these contactant type of factors are more likely to be suspected in those with dermatitis involving the peripheral portions of the extremities.

Wool may act as an inhalant factor as well as a contactant and is without equal in severity.[11] It also acts most frequently in the winter time, particularly in the patient in whom lateral arm and leg involvement is prominent. As an inhalant factor it probably is to be considered etiologic only when exposure occurs to a relatively crude product, not vigorously treated by refinement and heat. These wool-sensitive people may also react vigorously to lanolin containing products.

Other animal hairs such as cattle, hog and goat hair similarly may be quite unimportant in the refined form but allergenic when exposure occurs to the relatively crude produce. Waffle pads under rugs especially may contain crude animal fibers pressed together with little alteration of the original antigenic qualities. Dog and cat dander frequently produce exacerbation, the latter being a much more potent offender. Despite the frequency of sensitivity to these danders, they are two of the most difficult to irradicate from the environment. Many patients would rather accept the consequences of the dermatitis than give up the pet. Lastly, mold spores may act as allergens by inhalation or ingestion and probably account for more allergic symptoms in children than they do in adults.

Treatment of Eczema

Before discussing the treatment of eczema it seems desirable again to focus attention on the variability in the course of this disease. Results of one or another form of treatment must be evaluated in the light of this natural variability as many factors are in operation at the same time controlling the fate of the dermatitis. Local and immunologic modes of treatment may seem beneficial at one time and ineffectual at others. Eczema probably is always controlled and not cured until it proceeds through its natural course and, of this fact, the parents or patient should be warned. Some of the factors operating in the substrata of eczema are:

1) Trauma of the skin particularly by itching which may be augmented by psychic factors.
2) Sweat retention which is increased by warmth, moisture, exercises, vascular instability and wind.
3) Bacterial infection, particularly coagulase positive Staphylococci and Streptococci.
4) Ichthyosis and other forms of hyperkeratosis which makes any eczema resistant to therapy.
5) Metabolic disturbances, many of which act as non-specific factors.

Preliminary discussion also should emphasize that no specific therapeutic measures are likely to be successful while secondary bacterial infection of the skin continues. Systemic infection, particularly in the respiratory passages also are likely to exacerbate the disease. Whether this effect is in the form of bacterial allergy or a non-specific, precipitating factor sometimes is uncertain. Regardless of the outcome over the argument, the patient's general health particularly from the point of view of acute and chronic infection requires careful evaluation at all times. Certainly these remarks hold true of acute infectious processes but the role of chronic infection is subject to more difference of opinion. Regarding chronic tonsil and adenoid infection, I rarely have satisfied myself that any significant benefit could be ascribed to surgical removal.

Emphasis also must be directed to the dangers of smallpox vaccination and herpes virus infections in those suffering from eczema. While vaccinia does not invariably follow smallpox vaccination nor varicelliform eruption invariably follow herpes simplex infection, the risk is great. Since it is, it continues to be desirable to avoid vaccination of patients with eczema and reduce exposure to herpes virus.

Precautions surrounding smallpox vaccination never can be too great. Before it is performed on any patient, we ask parents or patient if anyone in the family suffers from eczema. This reduces but does not eliminate all danger associated with it since a relative or friend with eczema may contact the vaccination site. In one situation with which I am familiar, this resulted in a near fatality for the visitor. Should a vaccination be performed inadvertently on another member of the family, the eczematous child should be removed from the home until the vaccination site has healed.

Superimposed herpes virus infection may cause a severe disease — Kaposis' varicelliform eruption. Since hospitals may foster epidemics of this virus it is wise to make every effort to keep the child with eczema at home. Should hospitalization become necessary, gamma globulin upon admission might be justified prophylactically and certainly in the event of a known epidemic. Certain other virus infections, notably varicella, also pose a tremendous threat to the eczema patient when he is being maintained on steroid therapy.

Topical Care

No attempt will be made to describe in detail the preparations available for the topical therapy of eczema. They are divided into:

1. Wet dressings
2. Baths
3. Lotions
4. Pastes
5. Emollients
6. Active medicinals

Physicians dealing with the eczema problem are urged to progress cautiously from the very mildest to most vigorous local medicaments, depending upon the stage of the lesions. Usually it is advisable to adopt one or two preparations in each category in order to become very familiar with their usefullness and limitations rather than an extensive but unfamiliar formulary. Since all local medications are likely to lose their effectiveness in time, an adequate history of previous treatment is important. This should include preparations that have worked well in the past and those that have not, since it would be unwise therapeutically and psychologically to prescribe something tried previously and found to be ineffective or harmful. Nothing could damage the physician-patient relationship more rapidly.

Several preparations of different strength may be necessary in the same patient at the same time. Frequent visits sometimes are necessary to make certain that these preparations still are appropriate for the stage of the dermatitis being treated. It always is wise to apply a small amount of the preparation to be used on a limited area of skin for at least



TREATMENT OF ECZEMA

I. TREAT THE SUB-STRATA
- A. TRAUMA OF SKIN
- B. SWEAT RETENTION, TEMPERATURE
- C. BACTERIAL INFECTIONS
  - 1. LOCAL - BACTERIAL, VIRAL, MYCOTIC
  - 2. SYSTEMIC
- D. HYPERKERATOSIS
- E. METABOLIC DISTURBANCES
- F. PSYCHE

II. TOPICAL CARE
- A. WET DRESSINGS
  - 1. BUROW'S SOLUTION 1:10-1:20
  - 2. BORIC ACID 2 %
  - 3. POTASSIUM PERMANGANATE 1:5,000-1:25,000
  - 4. SALINE 0.9%
  - 5. ZEPHIRAN CHLORIDE 1:2,000
- B. BATHS
  - 1. AVEENO Rx
  - 2. CORN STARCH
  - 3. BAKING SODA
  - 4. ALWAY TAR BATH Rx
- C. LOTIONS
  - 1. CALAMINE USP
  - 2. Rx PHENOL 1
    - ZINC OXIDE 6
    - GLYCERIN 12
    - OLIVE OIL
    - AQUA CALCIC ää qs 120
- D. PASTES
  - 1. 1:2:3 PASTE
    - BUROW'S SOLUTION 10
    - HYDROSORB 20
    - PLAIN LASSAIS PASTE 30
- E. EMOLLIENTS
  - 1. HYDROPHILIC BASES
    - AQUAPHOR, QUALATUM
  - 2. LANOLIN
  - 3. PETROLATUM
  - 4. ACID MANTLE CREAM Rx
- F. ACTIVE MEDICINALS
  - 1. TAR
  - 2. VIOFORM Rx STEROSAN Rx
  - 3. ANTIBIOTICS
  - 4. STEROIDS

III. THE PROBLEM OF ITCHING

IV. CORTICOTROPHINS AND STEROIDS

V. OTHER NON-SPECIFIC MEASURES
- A. ANTIHISTAMINES
  - 1. TOPICAL
  - 2. SYSTEMIC
- B. SEDATIVES AND TRANQUILLIZERS
- C. FOREIGN-PROTEIN THERAPY
- D. X-RAY AND GRENZ RAY
- E. ULTRAVIOLET
- F. CLIMATOTHERAPY
- G. PSYCHIATRIC THERAPY
- H. ANTIBIOTICS

VI. SPECIFIC ALLERGY THERAPY
- A. DIETARY CONTROL
- B. ENVIRONMENTAL CONTROL
- C. HYPOSENSITIZATION

twenty-four hours before administering over an extensive area of the skin. Failure to do so invites a severe exacerbation since it is not always possible to judge how strong a medication will be tolerated in a given patient.

Furthermore, after using a preparation for any length of time, a secondary contact irritation or sensitization may develop. This is one of the most common reasons for unexplained exacerbations and should be considered whenever treatment is unsuccessful. In my experience, tar preparations are most notorious in this regard. While some chronic, resistant lesions seem to respond best to one of these, irritation or contact sensitization must be anticipated and their use terminated should one or the other reaction develop. For most cases of atopic dermatitis, it is my feeling that the usefulness of tar is greatly overrated and adequate investigation of etiologic factors frequently permits satisfactory control of the dermatitis with milder medications. Tar preparations also foster the development of folliculitis and secondary bacterial infection. While antibacterial agents combined with tar may reduce this danger, the possibility still exists. Vioform Rx is used frequently for this purpose and seems fairly safe and effective.

Summarizing these general remarks, when acute eczema subsides, baths and soaks may be discontinued and mild lotions, ointments or pastes may be substituted. With adequate etiologic investigation it is hoped that stronger medications will be unnecessary although this goal is not always attained. When strong, stimulating preparations are necessary, considerable care including frequent re-evaluation is necessary to prevent overtreatment or secondary bacterial infection.

Since contact dermatitis and exacerbation of the dermatitis by trauma are such important features limiting the control of eczema I feel that wrapping of extremities is the single, most important measure in childhood eczema. Protection of involved areas by adequate wrapping with well washed strips of old sheet material followed by elastic bandage may make unnecessary more vigorous and inhumane methods of immobilization. This is true particularly when extremity wrapping is combined with covering of hands and by elbow splinting. Judgment must be used in discontinuing such treatment during very hot weather to prevent exacerbation by sweat retention and in foregoing this approach until the weeping, oozing stage of acute eczema has subsided.

The Problem of Itching

Nothing is truly effective in the control of itching and this is the most distressing feature of eczema. Over a long period of time most patients would tolerate pain better than the incessant itching from which they must suffer. This in itself is capable of producing

profound somatopsychic effects. Locally, cool packs and baths, menthol and phenol preparations, and steroids all have value. Systemically, antihistamines, Temeril Rx, sedatives and steroids may be necessary. In the former group cool packs rank above all others in efficacy while in the latter most agents have been disappointing except for steroids.

Lichenified skin itches regardless of cause. Measures to control this thickening are necessary before relief of itching occurs. For this situation, salicylic acid, strong tar preparations or Schwartz's ointment may be necessary. X-ray or Grenz irradation also is used by some.

Corticotrophins and Steroids

Steroids seem to defy the general principle that ointments should be avoided during the acute stage of eczema. However, creams and lotions containing various of the steroids are available which would seem more appropriate during this stage. These preparations all are helpful in selected cases, particularly when the lesions are superficial. However, they are very expensive for use in a chronic disease, particularly if the involvement is extensive. Someone has said they are most useful for rich patients with localized lesions.

Systemic steroid or corticotrophin therapy is plagued by certain inherent risks with which most are familiar. This has been emphasized forcibly by Good and associates[7] despite the fact that most of his patients were on large doses for serious illnesses and most patients with eczema are maintained on small doses. Before using these powerful agents, let us consider their risk when used even in small doses. McLean's[8] study of patients with respiratory allergy maintained on minimal doses of steroids showed that the majority had side effects from treatment varying from mild to severe reactions. Furthermore, VanMetre and Pinkerton[9] demonstrated growth suppression in children maintained on Prednisone in doses greater than 5.1 mgm. per square meter of body surface. As examples from the literature, they indicate that one undertakes steriod therapy, even in minimal doses, with rather serious misgivings that the problem could not be solved by less dangerous means. Certainly, prolonged treatment with these hormones is not to be undertaken under any circumstances unless the physician is willing to follow his patient carefully, both from the clinical and laboratory standpoints.

Other Non-Specific, General Measures

A host of auxiliary measures have been used to improve the treatment of eczema all of which have met with variable success.

1. Antihistamines have been advocated for the control of eczema by topical and systemic administration. In my opinion, the topical administration of these drugs for any dermatitis is contra-indicated because their efficacy is questionable and sensitizing potential is great. Their use seems unnecessary when so many of their products are available with equal or greater efficiency and with less risk of contact sensitization. Oral or parenteral administration of antihistamines are moderately beneficial in some eczemas but I have not been impressed by remarkable improvement from their use. Certainly, their sedative action may be useful but all have an atropine effect as well. When asthma accompanies eczema the latter action is undesirable.

2. Sedatives and tranquillizers commonly are advocated and while they may be useful for the acutely disturbed child during the most violent stage of eczema, it hardly seems justified to continue them throughout the course of a chronic illness. This particularly is true of the older child or adult as clouding of consciousness prevents the individual from performing to capacity in school or at work. Physicians sometimes fail to evaluate critically the effects of even small doses of such medications when used over a long period of time. The advantages should far outweigh the dangers before any drug is used and, in the case of these agents, I doubt that sufficient advantage exists.

3. Milk, histamine, Piromen,® Anergex® and a host of other agents have been advocated for the treatment of allergic conditions. For a time many have enjoyed a flurry of enthisiasm only to be discarded by the test of time. To my knowledge, none have withstood critical evaluation although occasional instances occur where improvement for their use seems dramatic. In these instances improvement probably can be attributed to stress or anamnestic action.

4. X-ray therapy for eczema is used infrequently because of its inherent risk, uncertainty of effect, and temporary action. It is

not necessary to point out that such an agent should never be used for allergic or any other conditions except by an expert in the field. Low-voltage Grenz irradiation is said to be considerably safer but still carries the same potential risks. Neither modality is frequently necessary.

5. Certainly ultra-violet irradiation frequently is helpful when obtained from sunlight and not complicated by excessive perspiration, burning or miliaria. Artificial sources of ultra-violet infrequently seem beneficial and at times may be harmful, for reasons poorly understood.

6. Climatotherapy is indicated in a few selected cases. The involvement would have to be very extensive and intractable to justify such a drastic suggestion. Naturally, before moving to another part of the country it would be desirable, by adequate allergic investigation, to know from what the patient should run. Eczema with exacerbation during the ragweed season certainly may be worse in an area with high ragweed pollination and, those caused by molds, in areas with high mold counts. This would occur regardless of sunshine, humidity and so forth.

7. Psychiatric therapy of atopic dermatitis occasionally may be desirable, but the number of patients benefitted by such treatment is small, in my opinion. Although there is considerable difference of opinion regarding the role of psychiatric factors in this disease, I must agree with the statement originally credited to Leo Chiep who is said to have exclaimed, "The diagnosis of psychosomatic illness is the recluse of the destitute diagnostician."

8. Prolonged, systemic antibiotic administration might be necessary in the rare case in which repeated bacterial skin infection is a serious threat. However, the tendency for coagulase-positive Staphylococci to develop resistance to antibiodics limits their usefulness. When used for a shorter course, they should be continued long enough to prevent exacerbation on their withdrawal.[5] The same may be said for their administration topically. Lastly, Staphylococcus toxoid may be of value occasionally, as recommended by Morris[6] and Epstein,[10] but to date, I have not been impressed by its effectiveness.

Specific Allergic Therapy

1. Trial and prolonged elimination diets are considerably easier to maintain in infants than in older children or adults. It is fortunate that the need for such diets is more likely to be in the infantile group than in the older patient. However, I have emphasized previously that foods cannot be disregarded at any age. Conversely, I am sure that any responsible physician would not feel justified in limiting the diet of the eczematous patient to the point of malnutrition. Obviously, we feel that adequate nutrition comes before the skin rash. It usually is possible to offer adequate diet substitutions for the specific food allergens and still maintain good nutritional balance. When food restrictions are necessary the most common error committed by the physician is lack of adequate instruction to the parents or patient regarding menus, substitutes, and listing of all foods which he may and may not eat. Rarely is food sensitivity so extensive that adequate substitutions are not possible.

2. Environmental control of household dust, wool, pets, molds, etc. frequently is necessary. At times such restrictions pay rich dividends but should not be carried to the point of absurdity. Since the patient spends most of his time in the bedroom, this area deserves major attack. Avoidance of wool in any form is desirable. Carpets, blankets, snow suits and wearing apparel of parents and patient are of utmost importance. Hyposensitization injections frequently are beneficial when inhalation allergy accounts for a significant part of the dermatitis. This is advisable only when avoidance is impossible as in the case of sensitivity to household dust, molds and pollen. The institution of such therapy is not to be taken lightly because of the necessity for prolonged treatment. When necessary, it surely may provide benefit not attained by conventional local therapy. Great care must be exercised in the administration of such extracts since dosage schedules usually employed for respiratory allergies are greatly in excess of the dosage which may exacerbate atopic dermatitis. When respiratory and skin allergy occur concomitantly, a dilemma occurs. The dosage sufficient for the control of the respiratory allergy may exacerbate the eczema and one must be satisfied with a dosage less than adequate for the control of the respira-

tory phase of the allergy. With subsidence of the dermatitis higher doses again may be tolerated sufficient to permit a normal dosage schedule and one that is adequate to control both phases of the dermal-respiratory syndrome.

SUMMARY

The "eczematoid dermatoses" are a complex group of disorders in which classification, etiology, and treatment, particularly, are subject to vast differences of opinion. At least in infants and children, atopic dermatitis is the most important representative of this group. The multiple etiology of this disease requires a clinical approach to the problem which embraces all known factors for satisfactory treatment. Some of these factors which seem to be of greatest importance to the author have been emphasized, rather than a more formal presentation of the subject.

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THE WAY AHEAD*

Roy C. Knowles, M.D.
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Does the road wind upward all the way? Yes, to the very end.

A quick look at our present situation in the State of South Dakota puts one in a rather somber mood since the road ahead is so much uphill and so very long. Along the way there are many obstacles.

Among the obstacles, I believe, is the individual's own tendency to run out of gas. Sometimes it ceases to make sense that one should fight. Fortunately for this particular organization, and I hope for the mentally ill people of the State of South Dakota, there have been certain individuals who have fought on for many years. Only now are they beginning to be joined by enough people and by enough public opinion to make their years or personal sacrifice appear to be worthwhile. And yet the road ahead is a tremendous one. The job has really only begun.

It is my opinion that the greatest obstacle of all is ignorance. Men have a great many faults and there are many petty things to which they put their minds and their energies. Sometimes these petty things cause great distress and render the works of others futile. However, it is not my belief that people engage in these petty things out of sheer perverseness. They do so out of a lack of knowledge.

Those of us who work in a specialized field like that of mental health, get to a point where we feel that what we are doing is the most important thing in the world. We also feel that the truth with which we work is self-evident. As a result of this we begin to feel that anyone who does not believe is stupid. From there it is just a small step into pettiness on our part. We must come to know that the people of South Dakota do not know the facts — they do not know the truth.

Thus, one of the obstacles in the long road ahead is ignorance. This ignorance extends from here to the very end of the road. The tool with which to overcome it is education and that education must extend from here to the end of the road.

One of the obstacles on our road is entrenchment. People become entrenched in certain positions for political reasons or for sentimental reasons and it is difficult to

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loosen them even though it is known they do harm. However, entrenchment itself is not necessarily bad, so long as it does not become an excuse for passive and unreasonable resistance. An example of this kind of resistance is the common experience in State Hospitals which have gone along struggling as custodial institutions for many years with a hard core of often underpaid but loyal people. Then comes a sudden inflow of enthusiasm to turn the custodial institution into a treatment Center. With the enthusiasm comes the hiring of highly trained and specialized staff who jar those who have been entrenched and cause them to passively, if not actively, resist. This is an understandable reaction and one which is not an unsurmountable problem. More dangerous however, in entrenchment is the often mistaken idea that because "uncle" John has been in this particular position for 35 years he is an authority and his viewpoint must be accepted.

Another obstacle, which lies ahead of us, is that incontrovertible fact that certain steps have already been taken which are very difficult to retrace. Indeed, some may even prove to be impossible to retrace. Our only hope in a case like this is that we not make any further mistakes. During the past years South Dakota, in its attempt to provide services to people, always has added political expediency to what ever decisions were made. As a result, several of our State institutions have been most illogically placed. Actually we cannot be too critical of this, however, because in some instances the placement of the institutions occurred before anyone had any idea what the requirements would be. In some cases the placement was rank stupidity and was concerned more with the spoilage of the political wars than with services to people. But what can we do about these things?

I think the only thing we can do is to keep constantly in mind, and to constantly repeat that an institution proposing to serve human beings, whether it be an institution for health, education or welfare, should be placed according to the facilities available within the community. A State institution is not a gift to the community. A State institution is served by the community and every State institution should be so placed as to receive from its parent community the most the State can provide for that particular kind of service. The fact that there is an empty building somewhere in the State owned by the State, does not justify the use of that building for any purpose pertaining to health, education or welfare. If that building is in a community which has, intrinsic within itself, all of the services that building and its proposed uses will need, only then should that building be occupied for a health, education or welfare service. Always as you approach the problems which have to do with the placement of facilities anywhere in the State, ask the question and repeatedly ask the question, what does that particular community have to offer the proposed service. Do not ask the question, how much of a pay roll will the institution provide the community. If a community has nothing to offer and no reason to exist other than there is an institution supporting it, then the community deserves to die.

One could go on picking out obstacles here and there. I think I will content myself with just one more. You people as a lay organization are attempting to carry an exceedingly heavy load of education, legislation and research for purposes of mental health. As you are carrying this load you may forget that the people with whom you work are human beings also. As you carry this burden you may also forget that you are a human being. Because you are a human being working with human beings, you must carry your load with a certain enthusiam, a certain religious fervor but at the same time, a certain patience and a certain equanimity. Fight for the cause that you have chosen. Fight valiantly for that cause. But don't fight the persons to whom you are talking. They are not enemies. They are people you are trying to teach. By and large they are people who want to know. You are asking them to commit themselves to a program which, in itself, is new and which, in itself, is changing. It wasn't many years ago that the State of South Dakota was sold on the idea of building an asylum for the mentally ill. At that time it was deemed sufficient to provide the mentally ill person with a place which would free him of the every day exigencies. He did not have to continue in the strife and turmoil of every day living. Maybe in the peace of an asylum his mind would heal. It was recognized that some

would not heal and to them was given a peaceful, restful asylum with no further expectations that they would have to produce in life. It came about that there were various iniquities and inequities developed out of such a program. There were constant strife and turmoil. Because of the very idea of an asylum the person thus put away was soon out of mind. As a result, there were permitted certain cruelties and mismanagements but these were not the fault of the people to whom the idea of an asylum was sold originally.

Now, we come along with an idea that the State Hospital, and here I concentrate largely on the State Hospital, is a place for treatment. Suddenly and, 20 years is still sudden, we are asking for tremendous increases in money for treatment purposes. We suddenly emphasize the fact that we need specialized doctors for this field. We need specialized social workers and specialized psychologists and specialized nurses and specialized attendents. No longer is the hospital to be considered as an asylum but rather a bee-hive of activity pushing people to good health. Suddenly, we present people with a tremendously enlarged concept of a budget and we do so without helping them understand why. Because we have worked in this field and because we have fought in this field and because we have suffered in this field, we take it for granted they should know. Because they do not know, we get angry. Because we get angry, we speak sharply and, by our very sharp speaking, our arguments lose their points. In the long road ahead, we must remember that we are people working with people and we are asking them for support in something they do not fully accept. But that does not make them our enemies.

Now, we have looked largely at obstacles. Is there anything else to see? I think there is a great deal. Do you know that when I came to South Dakota, partly at the request of the South Dakota Mental Association, I was the only psychiatrist in the State doing anything other than governmental psychiatry. There were only those psychiatrists working for the VA or those for the State Hospital. Now, Sioux Falls has two, Aberdeen has two, Rapid City has one, and Yankton has one. This means one private practicing psychiatrist for about every 100,000 population in the State. We have a long ways to go. New York State has one psychiatrist for every 25,000 population. To get an equal ratio we would have to have about 25-30 psychiatrists in the State. When I came to Sioux Falls it was to start the first full-time psychiatric clinic on a community level. The West River Clinic had been running for a few years but had always been on a partial basis. Now, there is, besides our full-time clinic, a full-time clinic in Aberdeen. The Clinic in Rapid City has not increased in size but has had a very encouraging increase in budget which may provide them a more successful development within the next year or two. And even here in your own organization you have signs of tremendous increase. Ten years ago you couldn't have gotten the Governor of South Dakota to spend his time coming to your Annual Meeting because your organization wasn't strong enough. He would, however, have courteously listened to you had you come to his chambers. Ten years ago you wouldn't have presumed to ask the Governor of Minnesota to come to your Annual Meeting. Your success in raising budget for this year is something out of this world compared with just a few years ago. Your annual Pastoral Counselling Institute is probably not exceeded in any State in the Union except possibly for certain highly endowed investigations of relationship between mental health and religion. You, as an organization, have been one of the instrumentalities responsible for giving this State two hospital administrations of dynamic psychiatry. The past six years, despite their obvious trials and tribulations, have demonstrated the efficacy of providing good psychiatric administration to the State Hospital. There are several forward looking plans and several hard-working committees carrying on the work of this association quietly and without fanfare and, I hope, successfully. I think you can be pleased. I think you can be proud. I know that I am proud to have had a part in your work even on an advisory level.

So you see, your work has paid off some. There are many things to do. There is much to do in legislation. There is much to be considered concerning State level psychiatric personnel. The State needs at least three more full-time clinics and so on. There is no end to where you can go. There is no run-

(Continued on Page 25)



THE SELECTION OF PATIENTS FOR CARDIAC SURGERY

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The subject of this paper, "The Selection of Patients for Cardiac Surgery," is a complicated one and, thus, the entire field cannot be covered in 30 minutes. Therefore, I shall confine the discussion to mitral stenosis and the 7 most common forms of congenital heart disease, and all 7 of these congenital defects are potentially amenable to cardiac surgery at the present time.

The proper selection of cases for cardiac surgery always begins with an accurate diagnosis and the decision as to whether a patient needs operation and also will benefit from cardiac surgery can usually be made at the bedside. Thus, the majority of this lecture will be devoted to the important cardinal findings on history, physical examination, electrocardiogram, and fluoroscopy in each lesion. The findings which make operation indicated or contraindicated in patients with each entity will be discussed.

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Mitral Stenosis: In selecting patients for mitral valvulotomy, there are several very important points. First, and of extreme importance, is that the patient definitely should have clear-cut symptoms. These symptoms usually consist of progressive exertional dyspnea, exertional cough, episodes of pulmonary edema, hemoptysis, and winter bronchitis. The patient may relate that he has all or any combination of these symptoms. No matter what the physical examination shows, if the patient is asymptomatic then usually the stenosis is not sufficiently tight to warrant operation. The one exception to this is that occasionally patients with long-standing mitral stenosis will develop pulmonary hypertension with changes in their pulmonary arterioles that protect the lung from being flooded with blood and thus the previously mentioned symptoms may be absent. However, in these cases the physical findings of pulmonary hypertension and the finding of right ventricular hypertrophy on the electrocardiogram will leave little doubt

as to the diagnosis. The physical signs in mitral stenosis consist of a pulse which is on the small volume side. Examination of the deep jugular neck veins is usually normal unless the patient has atrial fibrillation, congestive heart failure, or pulmonary hypertension. Auscultation in the mitral area, in a patient with pure tight mitral stenosis, reveals a loud first heart sound, no murmur in systole, a normal second heart sound followed by a mitral opening snap and a long diastolic, low-pitched rumbling murmur with presystolic accentuation.

It is important at this time to emphasize that it has been observed that the distance between the Aortic second sound and the mitral opening snap on the phonocardiogram is a reliable indicator of the degree of tightness of the mitral stenosis. The closer the opening snap is to the second heart sound, then the tighter the stenosis. The mitral opening snap should be .07 seconds or less from the second Aortic sound if the stenosis is significant; also, it should be emphasized that patients with tight mitral stenosis have long diastolic rumbling murmurs that start after the opening snap and last right on up to the first sound with a presystolic accentuation (in the absence of atrial fibrillation, of course). If the mitral diastolic rumbling murmur is not long in duration, then the stenosis is usually not very tight and operation usually is not indicated.

On fluoroscopy, of course, the left atrium is enlarged as well as the left atrial appendage, and the pulmonary artery is usually prominent; all of these put together form the classical straight left heart border of mitral stenosis.

In selecting cases for mitral valvulotomy it is well to bear in mind that the mortality of mitral valvulotomy is still around 1.7 per cent, cerebral embolism does occur, good results occur only in 75 per cent of cases, and postoperative re-stenosis of the valve has been occurring at the rate of about 2 per cent per year. All of these observations put together make it important to not send patients for mitral valvulotomy prematurely. It is probably wise to try to defer operation until the patient is more than 20 years of age because of the possibility of recurrence of rheumatic activity and re-stenosis.

A clear-cut history of episodes of acute pulmonary edema is probably the strongest of grounds for mitral valvulotomy. Episodes of systemic embolism are also an indication to recommend mitral valvulotomy and it is believed that recurrent winter bronchitis also is sufficient to recommend valvulotomy. Atrial fibrillation has no bearing on the decision and is no indication or contraindication to valvulotomy. Recent rheumatic activity is an adverse circumstance but not an absolute contraindication to mitral valvulotomy. The contraindication to mitral valvulotomy at the present time consists of significant mitral insufficiency, significant calcification in the mitral valve, active congestive heart failure, or subacute bacterial endocarditis.

Atrial Septal Defect: The atrial septal defect is the most common of all congenital cardiac anomalies and accounts for about 20 per cent of congenital heart disease. The atrial septal defect is of the sinus venosus type in 10%, that is, lying high in the atrial septum near the orifice of the superior cava, and is frequently associated with anomalous venous drainage. A secundum type atrial septal defect, that is, a hole in the area of the foramen ovale, accounts for 80 per cent of all atrial septal defects and 5 per cent of all atrial septal defects are of the ostium primum or docardial cushions. Ostium primum defects lying low in the septum, right on top of the endocardial cushions, with no significant rim of tissue separating the defect from the endocardial cushions. Ostium primum defects are frequently associated with clefts in the mitral or tricuspid valves, or both valves, and occasionally with an additional high-lying ventricular septal defect as part of the over-all endocardial cushion abnormality.

It is of great importance to be able to differentiate the secundum type atrial septal defect from the primum type atrial septal defect, because the secundum defect may be very nicely repaired with the benefit of hypothermia and inflow-outflow occlusion, while the ostium primum defect cannot be repaired under hypothermia but must be corrected on the pump oxygenator. The difference between the two lesions will be emphasized shortly.

Patients with atrial septal defects usually have no symptoms; however, if symptoms are present they usually consist of mild shortness of breath, fatigue, and "a pounding in the

chest." These symptoms usually are absent in children and young adults but may make their appearance as the patients grow older. It is important to note that the reason why atrial septal defect causes a shunting of blood from the left atrium into the right atrium is because the filling resistance of the left ventricle is greater than the right. Thus, it is believed that atrial septal defects probably do not begin to shunt before about the age of 4 months, because it is only then that the physiologic increased pulmonary resistance diminishes to normal and allows the shunt to begin. Thus, a heart murmur is usually not heard at birth in atrial septal defects and, in fact, more commonly the heart murmur is picked up on a routine physical examination during the patient's early life.

Physical examination usually reveals that the patients are on the thin side and have the so-called "gracile habitus." The pulse is usually on the small volume side but may be normal. Examination of the deep jugular neck veins reveals a normal jugular venous pressure and it may be noted that the "a" and "v" waves are more prominent than normal but not definitely increased in size. Frequently the "a" wave will be more than 1½ times the height of the "v" wave. Inspection of the chest reveals that the precordium bulges unilaterally to the left of the sternum is approximately 40 per cent of all patients with atrial septal defects. The cardiac impulse is active and hyperdynamic and an active right ventricular lift is felt in almost all cases. A pulmonary artery pulsation may be felt in the pulmonary area. Auscultation in the 2nd and 3rd intercostal space at the left sternal border reveals the presence of an ejection-type systolic murmur and a widely split second heart sound which fails to widen on inspiration or narrow with expiration. The wide fixed splitting of the second heart sound is an important sign to focus attention upon because the murmur in atrial septal defects may be unremarkable and even sound functional at times. A widely split, fixed second heart sound is an abnormal finding and should always be explained. The causes of late pulmonary valve closure are (1) complete right bundle branch block, (2) significant valvular pulmonary stenosis, (3) and atrial septal defects or anomalous venous drainage into the right atrium. Auscultation in the tricuspid area reveals a low-pitched rumbling diastolic functional tricuspid filling murmur. Auscultation at the apex is usually unremarkable unless an ostium primum defect with a cleft in the mitral valve is present, in which case a murmur of mitral insufficiency will be heard. A similar murmur may be heard in the tricuspid area if there is a cleft in the tricuspid valve and, if an additional ventricular septal defect is present as part of the endocardial cushion defect, than a harsh rasping pansystolic murmur will be heard at the lower left sternal border.

The electrocardiogram in a typical secundum type atrial septal defect shows right axis deviation (more than +100° on the triaxial reference figure) and a rSR' pattern in V_3R or V_1 and this pattern has been designated right ventricular outflow tract hypertrophy; it is probably due to dilatation and/or hypertrophy of the outflow tract of the right ventricle and is a form of diastolic overloading of the right ventircle rather than any true interruption of conduction in the right bundle branch, as it was thought to be previously, for it was called incomplete right bundle branch block.

The typical electrocardiogram in the ostium primum type atrial septal defect shows true left axis deviation (more leftward than -30° on the triaxial reference figure) and again the pattern of right ventricular outflow tract hypertrophy in the right precordial leads. Thus, it is apparent that the great difference between the electrocardiograms in a secundum defect and the ostium primum defect is the presence of right axis deviation with a clockwise vector loop when plotted from the limb leads on the frontal plane, in the secundum defect, and the presence of left axis deviation with a counterclockwise vector loop in the ostium primum type defects. Thus, the electrocardiogram is the single most reliable tool in differentiating the ostium secundum from the ostium primum type atrial septal defect.

On fluoroscopy, a very characteristic pattern is noted in atrial septal defects and this consists of markedly increased vascularity in the lung fields; a large, active, hyperdynamic heart with the enlargement noted to be of the right atrium and right ventricle; and a large and active main pulmonary artery. The

right and left pulmonary arteries are enlarged and have increased activity, and the aorta is noted to be small and inconspicuous. The left atrium and left ventricle are actually normal to decreased in size, unless an ostium primum defect is present in which case the left ventricle may be noted to be enlarged.

At the present time the mortality for closure of a straightforward secundum atrial septal defect is so low that whenever the diagnosis is made the surgical correction of the lesion is recommended. If an ostium primum type atrial septal defect is present, then this defect must be closed on the pump oxygenator and the mortality is somewhat higher, and, of course, depends on the severity of the lesion; namely, if an ostium primum defect with only a mitral cleft is present, then the mortality is relatively low, but if an additional ventricular septal defect is present as part of the abnormality, then the mortality has been quite great, so far, in most centers.

Pulmonary Stenosis: Pulmonary stenosis with a normal aortic root accounts for 15 per cent of congenital heart disease, and the stenosis is valvular in 90 per cent and infundibular in around 10 per cent. Patients with pulmonary stenosis usually have no symptoms but occasionally shortness of breath and angina are observed. With severe valvular pulmonary stenosis, the patients may go into congestive heart failure and have tricuspid insufficiency early in life.

Physical examination in patients with pulmonary stenosis usually reveals a normal peripheral pulse and inspection of the neck veins reveals a normal jugular venous pressure. Observation of the waves in the neck veins reveals a prominent "a" wave in moderate stenosis and a giant "a" wave in severe stenosis. The term "mild valvular pulmonary stenosis" is applied to those patients with a right ventricular pressure below 50 mm. Hg. and the term "moderate pulmonary stenosis" is applied to those patients with right ventricular pressures of 50 to 100 mm. Hg., while "severe pulmonary stenosis" is present in patients who have a right ventricular pressure of more than 100 mm. Hg. Of course, there is a gradient across the pulmonary valve in all of these patients and the pulmonary artery pressure is low.

Inspection of the precordium in patients with pulmonary stenosis is usually unremarkable. Palpation will reveal the presence of a right ventricular lift in the patients with moderately severe stenosis and palpation over the pulmonary area and in the 1st and 2nd intercostal spaces at the left sternal border will frequently reveal the presence of a systolic thrill. Auscultation reveals the presence of an ejection click in mild pulmonary stenosis and a right atrial gallop in severe pulmonary stenosis. Auscultation in the 1st and 2nd intercostal space usually reveals the presence of an ejection-type, harsh, obstructive, systolic murmur that definitely ends before the second heart sound. This mummur gets longer as the stenosis gets more severe. If the murmur is long, then it may drown out aotic closure and, if the second pulmonary sound is decreased enough, then no second heart sound may be heard at all. This murmur is usually maximum in the 1st and 2nd intercostal space and often well transmitted toward the left shoulder. However, in infundibular stenosis, usually the murmur is maximum slightly lower down and is best heard in the 3rd intercostal space at the left sternal border. In mild pulmonary stenosis, the pulmonary component of the second sound is usually normal in intensity and not delayed. In moderate pulmonary stenosis , the pulmonary component of the second sound comes .05 to .07 seconds after the aortic closure on the phonocardiogram. In severe pulmonary stenosis, the pulmonary component of the second sound falls .08 to .12 seconds after aortic closure. Thus, the degree of splitting of the second heart sound becomes a reliable sign as to ascertaining the severity of the pulmonary stenosis. Thus, the wider the splitting the tighter the stenosis. In severe pulmonary stenosis, the pulmonary component of the second heart sound is often inaudible but can usually be recorded on the phonocardiogram.

The electrocardiogram is usually normal in patients with mild pulmonary stenosis but shows various degrees of right ventricular hypertrophy in the moderate and severe groups of stenosis. In severe valvular pulmonary stenosis, the T wave is frequently inverted in V_1 to V_3 and right atrial hypertrophy is seen on electrocardiogram.

On fluoroscopy, the peripheral part of the lung field shows decreased vascularity and the heart is noted to be normal in size, usually,

and is quiet. The main pulmonary artery is increased in size due to the poststenotic dilatation frequently the left pulmonary artery may participate in this dilatation and be prominent also, but the right pulmonary artery will be noted to be small with decreased pulsation. If the stenosis is infundibular, then the main pulmonary artery will, in contract, be not prominent. The heart may show the configuration of right ventricular hypertrophy. If congestive heart failure or tricuspid insufficiency has intervened, then the heart will be enlarged instead of normal in size or small.

It is our feeling that patients with a right ventricular pressure of more than 70 - 80 mm. Hg. should probably have corrective surgery done for their pulmonary stenosis. Patients with severe pulmonary stenosis should be surgically corrected without delay. Patients with mild pulmonary stenosis need not be operated on at the present time.

Patent Ductus Arteriosus: The patent ductus accounts for approximately 13 per cent of all congenital heart disease. The shunt in the patent ductus is maximum in late systole and minimum at the end of diastole and during the isometric ventricular contraction. The magnitude of the shunt varies directly with the caliber of the ductus and inversely with the length of the ductus. Clinically, patients with a patent ductus usually are asymptomatic unless congestive heart failure intervenes.

On physical examination the pulse is noted to be collapsing and of the waterhammer type, and frequently, prominent carotid and suprasternal arterial pulsations will be noted. Examination of the neck veins usually reveals a normal jugular venous pressure and normal waves and troughs. Palpation of the precordium reveals an active cardiac impulse with a left ventricular lift present. A pulmonary artery impulse may be felt occasionally over the pulmonary area and a continuous thrill is frequently present in the 1st or 2nd intercostal space at the left sternal border. Auscultation reveals the presence of a continuous murmur that is usually best heard in the 1st and 2nd intercostal space at the left sternal border and may be well transmitted toward the left shoulder. This murmur may be maximum a slight bit lower if an aortic-pulmonary window is present instead of a patent ductus. Auscultation at the apex frequently reveals a functional mitral diastolic filling murmur. If a pulmonary insufficiency murmur is heard, then an "Eisenmenger reaction" may be suspected.

The electrocardiogram is normal in a mild ductus; left vetricular hypertrophy is noted in the moderate to severe cases.

On fluoroscopy, it is noted that the vascularity of the lung fields is increased, the main pulmonary artery, right and felt pulmonary arteries are all enlarged and active, and it is most important to observe the aorta in these cases for it is always large and has increased activity. The left ventricle is usually prominent and the left atrium may be prominent.

Surgical ligation of patent ductus arteriosus is usually indicated when the diagnosis is made, unless the patient is a tiny infant with no signs of failure, in which case the operation may be deferred for a short period until the patient is larger.

Tetralogy of Fallot: Fallot's tetralogy accounts for approximately 12.5 per cent of congenital heart disease and is, of course, the commonest cause of cyanotic heart disease. Many of these patients die in infancy and there is a second mortality peak around puberty. The history is very important in tetralogy in that most patients exhibit exertional dyspnea, squatting, acute dyspneic episodes, syncope, and poorly tolerated upper respiratory infections. It is important to follow these patients' symptoms very closely because if acute dyspneic episodes, syncope, or a rising hematocrit begin to occur, then some type of operation, either palliative or corrective, is indicated.

Physical examination reveals the presence of cyanosis and clubbing, except in the very mild cases. The pulse is normal. Examination of the neck veins reveals frequently that the "a" waves may be 3 cm. above the "v" waves but giant "a" waves are never seen in tetralogy of Fallot. The cardiac impulse is quiet. A pulmonary systolic murmur is heard in 85 per cent of the patients and this murmur is an ejection-type, relatively harsh, rough murmur that is maximum usually in the 3rd intercostal space. The second heart sound is often noted to be single due to the fact that pulmonary closure is frequently inaudible. The murmur in tetralogy of Fallot

is frequently shorter than that heard in valvular pulmonary stenosis because right ventricular ejection is less prolonged. No ejection click is heard and no pulmonary insufficiency murmur is heard.

The electrocardiogram shows right ventricular hypertrophy and may show some right atrial enlargement.

The fluoroscopic findings in tetralogy of Fallot are quite classical in that the over-all heart size is usually normal or even small and the aorta is seen to be increased in size; there is a hollowing-out in the area of the main pulmonary artery which is, of course, inconspicuous. The vascularity of the lung fields is usually decreased and the right ventricular hypertrophy gives the heart the classical "coeur en sabot" appearance. The finding of a right aortic arch is quite helpful and this occurs in 20 to 25 per cent of all tetralogies.

The selection of tetralogy of Fallot patients for cardiac surgery is not an easy task. Patients who have severe tetralogies, are markedly cyanotic, and who exhibit a downhill course in their symptomatology, need operation but most of these patients have a small pulmonary artery, a small pulmonary vascular bed, and are unable to survive complete surgical correction, namely, closure of the ventricular defect and alleviation of the infundibular stenosis. These severe tetralogies should probably have a Blalock-Taussig or Potts procedure done or else have surgical correction of the infundibular stenosis with the ventricular septal defect being left open; this latter operation is called the Brock operation for tetralogies.

If the patient has a classical or moderate tetralogy and examination shows that the pulmonary vascular bed may accommodate the increased blood that will be sent to it following corrective surgery, then this patient may be scheduled for a complete surgical correction on the pump oxygenator and at surgery the ventricular septal defect may be repaired, the infundibular stenosis may be resected, and, if necessary, a patch may be put into the outflow tract of the right ventricle in order to obtain an adequate lumen to the outflow tract.

Patients with mild tetralogies who are getting along fairly well can afford to wait until the surgical mortality is quite low before they are sent to operation.

Ventricular Septal Defect: The ventricular septal defect accounts for 10 per cent of congenital heart disease. The defect is in the membranous portion of the interventricular septum in 90 per cent of the cases and is in the muscular wall, forming a "Roger" type defect, in the remaining 10 per cent. The magnitude of the shunt through the ventricular septal defect is dependent upon the size of the defect and the pulmonary resistance. These patients usually have no symptoms but the patients may be on the small side in stature.

On examination the pulse may be on the small volume side. The jugular venous pressure and neck veins are usually normal. Inspection of the chest frequently reveals the presence of a symmetrical deformity of the anterior chest which starts high up and bulges forward over the entire midsternal area, in contrast to the unilateral left-sided precordial enlargement in atrial septal defects. Palpation usually reveals the presence of a prominent left ventricular impulse and a right ventricular lift may be present. A pulmonary artery pulsation may be felt in the pulmonary area. Along the lower left sternal border a systolic thrill may be felt. Auscultation reveals the presence of a harsh, rasping, pansystolic murmur that is of maximum intensity in the 4th left intercostal space at the sternal border and is usually louder in the 5th intercostal space than in the 3rd. The second heart sound is usually normal in intensity and has normal splitting. Frequently a diastolic flow murmur is heard at the apex. If a pulmonary insufficiency murmur is heard along the left sternal border, then an "Eisenmenger" reaction may be suspected.

The electrocardiogram usually shows left ventricular hypertrophy and may show some right ventricular hypertrophy or right ventricular outflow tract hypertrophy. About 15 per cent of ventricular septal defects will show left avis deviation.

Fluoroscopy reveals the presence of markedly increased vascularity of the lung fields. The heart is usually somewhat enlarged and the main, right, and left pulmonary arteries are enlarged and have increased activity. The aorta may be normal or decreased in size.

The left ventricle and left atrium are frequently prominent and the right ventricle may be prominent also.

The selection of ventricular septal defect patients for cardiac surgery is again complicated. If, on cardiac catheterization the patient has a large left-to-right shunt with a normal pulmonary artery pressure, then he is a good candidate for surgical closure. If the patient has a large left-to-right shunt with only a slight to moderate elevation of pulmonary artery pressure, then he is again thought to be a good candidate for cardiac surgery. If the patients with ventricular septal defects have a moderate left-to-right shunt with an elevated pulmonary artery pressure and a pulmonary vascular resistance that falls after the administration of prescoline, then it is felt that they are still fairly good surgical candidates. However, if the patient has a small left-to-right shunt, a high pulmonary artery pressure, and a high total pulmonary resistance that fails to drop after the administration of priscoline, then it is felt that this patient is a poor candidate for cardiac surgery.

Coarctation of the Aorta: Coarctation of the aorta accounts for approximately 9 per cent of all congenital heart disease and is fortunately a nicely correctible lesion. The coarctation is usually located just below the origin of the left subclavian artery but may, in some cases, be above the left subclavian, in which case the pressure in the left arm would be similar to that in the leg and, if the coarctation is at the site of the left subclavian take-off, then the pressure in the left arm will be some 20 to 30 mm. below that in the right arm. If the right subclavian arises anomalously below the site of the coarctation and travels retro-esophageally to the right arm, then the right arm blood pressure will be similar to the femoral. Anomalies associated with coarctation of the aorta include a bicuspid aortic valve that occurs in 9 per cent of cases, aortic stenosis in 5 per cent, patent ductus arteriosus in 5 per cent, mitral insufficiency or mitral stenosis in 5 percent, and a ventricular septal defect in 1.5 per cent.

The complications of a coarctation of the aorta include bacterial arteritis at the site of the coarctation or endocarditis on the bicuspid aortic valve, aortic dissection or rupture, subarachnoid hemorrhage, and congestive heart failure.

Patients with coarctation of the aorta are usually asymptomatic but 8 per cent of the patients will have intermittent claudication and many patients complain of ease of fatigability of their legs following exertion.

Physical examination reveals that the blood pressure is usually 33 per cent higher than normal in children and in adults the blood pressure ranges from 180 to 210/100 to 110. In the examination of any patient, it is important to emphasize that the brachial pulse should be compared with the femoral pulse, for patients with coarctation of the aorta will have a lag or delayed pulse peak in their femoral arteries when it is compared with the brachial arteries. This is important to look for because some patients with coarctation of the aorta may have a relatively normal blood pressure but the coarctation may be diagnosed by finding a definite lag between the brachial and femoral pulses when they are timed simultaneously. Inspection of the patient's neck will usually show increased activity of the carotid arterial pulsations and frequently a prominent arterial pulsation in the suprasternal notch. The blood pressure in the arms is usually elevated and palpation of the femoral pulses reveals a slow, delayed rise like that seen in aortic stenosis. Occasionally, palpable collateral vessels may be felt between the ribs when one looks for them with the patient bent over and the light properly adjusted on the patient's back. Inspection of the precordium is usually unremarkable but palpation may reveal the presence of a left ventricular lift. Auscultation usually reveals the presence of a systolic, ejection-type murmur, heard over the aortic area, which is an aortic ejection murmur probably due to the dilated ascending aorta. Auscultation over the back reveals the presence of a vascular, systolic murmur over the site of the coarctation. Frequently an ejection click is heard in patients with coarctation and this is a sign of the dilated ascending aorta.

The electrocardiogram is usually normal or shows left ventricular hypertrophy.

Fluoroscopy and x-rays usually reveal the presence of a prominent left subclavian artery, followed lower down by the poststenotic dilatation, and this produces a "3 or reverse E

sign." The left ventricle is frequently seen to be enlarged and, in the older patient, prominent notching of the ribs may be present.

The ideal age for surgical correction of a coarctation of the aorta is somewhere around 10 years of age but surgical correction can be accomplished earlier if necessary.

Aortic Stenosis: Aortic stenosis accounts for only 3 per cent of congenital heart disease and is valvular in two-thirds to three-quarters of the cases and subvalvular in the remainder. Symptoms occur only in the more severe cases and these usually consist of angina, effort syncope, and congestive heart failure.

On physical examination it is found that in the mild cases a loud ejection click is heard which is again a sign of a dilated ascending aorta and a short, midsystolic, ejection-type murmur is heard which starts about .05 seconds or more after the first sound and ends in protodiastole at least .03 seconds before aortic closure. When the stenosis is more than mild, it is usually accompanied by a thrill that is felt over the aortic area and transmitted into the neck vessels. With critical aortic stenosis, it is noted that the pulse is on the small volume side and is definitely slow-rising. The blood pressure is usually low with critical stenosis and frequently the carotids are not seen. With critical or severe stenosis, no ejection click is heard. The ejection murmur may be quite loud and accompanied by a thrill and frequently aortic closure is so delayed that it may even fall after pulmonary closure, in which case reverse splitting of the second sound will be observed, namely, the second sound will become single during inspiration and split during expiration. Aortic insufficiency is present in about 33 per cent of the cases.

The electrocardiogram shows left ventricular hypertrophy and fluoroscopy reveals a prominent ascending aorta and left ventricular hypertrophy. Since calcium is present in 80 per cent of rheumatic aortic stenosis over the age of 30 years, the absence of calcium in an adult should suggest the possibility of congenital subvalvular aortic stenosis.

At the present time aortic valve surgery is not satisfactory enough to send routine patients with aortic stenosis to surgery. However, the surgery is satisfactory enough that if the patient starts on a downhill course or becomes symptomatic with angina, effort syncope or congestive heart failure, then corrective surgery may be recommended and successfully carried out. In uncomplicated aortic stenosis, when the patient is getting along quite well and exhibits no downhill course, then probably corrective surgery should be posponed at the present time until the mortality of the operation decreases.

THE LABORATORY DIAGNOSIS OF HUMANE LEPTOSPIROSIS—

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THE WAY AHEAD—

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ning out of things to do.

Yes, the road does wind upward all the way. All the way to the very top. You cannot see the top, neither can I. I cannot even tell you that there is a top. As a matter of fact I rather suspect that as you get much farther along this road you will find that it will begin to blend in with many other roads and ultimately you will join others working simply toward the betterment of mankind. But for now, man, in his very limited wisdom, can only see small portions at a time. You have chosen, as your small portion, this tremendously important job of trying to provide the best of mental health facilities for your State. So far you have done amazingly well in your successes and in your ability to withstand reverses. So, in the final analysis, the way ahead is simply to keep on going. The road is uphill. There are many obstacles and you cannot see the end. You may take heart in your past successes, in the obvious interest that others are now showing in your work, and in the knowledge that ultimately you are casting your lot with those who serve mankind.

REPORT ON ACTIONS OF THE HOUSE OF DELEGATES AMERICAN MEDICAL ASSOCIATION THIRTEENTH CLINICAL MEETING

Freedom of choice of physician, relations between physicians and hospitals, a scholarship program for deserving medical students and relative value studies of medical services were among the major subjects acted upon by the House of Delegates at the American Medical Association's Thirteenth Clinical Meeting held December 1-4 in Dallas.

Dr. Chesley M. Martin of Elgin, Okla., was named as the 1959 General Practitioner of the Year for his outstanding contributions to the health and civic affairs of his home community. Dr. Martin, who has practiced in Elgin for the past 44 years, was the 13th recipient of the annual award and the first Oklahoman to be so honored.

Speaking at the Tuesday opening session of the House, Dr. Louis M. Orr of Orlando, Fla., A.M.A. President, urged the nation's physicians to take a more active interest in the whole area of politics, public affairs and community life. Dr. Orr also asked physicians and medical societies to do a more effective job of telling medicine's positive story, adding that "if more people knew more about the things we support and encourage, they would listen to us much more carefully about those occasional things that we oppose."

Two nationally known political leaders from Texas also addressed the Tuesday morning session. Senator Lyndon B. Johnson, majority leader in the U. S. Senate, called for a "politics of unity" which will enable Americans to exert strength and determination in an effort to create a world in which all men can be free. Speaker of the U. S. House of Representatives Sam Rayburn urged greater attention to the task of educating young people in the principles of American government and giving them a desire to perpetuate it.

Total registration through Thursday, with half a day of the meeting still remaining, had reached 4,727, including 2,742 physicians.

FREEDOM OF CHOICE

In considering four resolutions which in various ways would have changed or replaced the statements on freedom of choice of physician which the House adopted in June, 1959, when acting upon the recommendations in the report of the Commission on Medical Care Plans, the House reaffirmed the following two statements approved in Atlantic City:

1. "The American Medical Association believes that free choice of physician is the right of every individual and one which he should be free to exercise as he chooses."

2. "Each individual should be accorded the privilege to select and change his physician at will or to select his preferred system of medical care, and the American Medical Association vigorously supports the right of the individual to choose between these alternatives."

However, in order to clarify and strengthen its position on the issue of freedom of choice of physician, the House also adopted this additional statement which was submitted as a substitute amendment on the floor of the House:

3. "Lest there be any misinterpretation, we state unequivocally that the American Medical Association firmly subscribes to freedom of choice of physician and free competition among physicians as being prerequisites to optimal medical care. The benefits of any system which provides medical care must be judged on the degree to which it allows of, or abridges, such freedom of choice and such competition."

PHYSICIAN-HOSPITAL RELATIONS

The House received 12 resolutions on the subject of relationships between physicians and hospitals. To resolve any doubt about its position, the House did not act upon any of the resolutions but instead reaffirmed the 1951 "Guides for Conduct of Physicians in Relationships with Institutions." It also de-

clared that "all subsequent or inconsistent actions are considered superceded."

The House also accepted recommendations that (1) the House of Delegates acknowledge the need to strengthen relationships with hospitals by action at state and local levels, (2) the Board of Trustees of the Association continue to maintain liaison with the Board of Trustees of the American Hospital Association, and (3) the Council on Medical Service review this entire problem to ascertain if there have been actions inconsistent with the 1951 Guides.

Those Guides summarize the following general principles as a basis for adjusting controversies:

"1. A physician should not dispose of his professional attainments or services to any hospital, corporation or lay body by whatever name called or however organized under terms or conditions which permit the sale of the services of that physician by such agency for a fee.

"2. Where a hospital is not selling the services of a physician, the financial arrangement if any between the hospital and the physician properly may be placed on any mutually satisfactory basis. This refers to the remuneration of a physician for teaching or research or charitable service or the like. Corporations or other lay bodies properly may provide such services and employ or otherwise engage doctors for the purposes.

"3. The practice of anesthesiology, pathology, physical medicine and radiology are an integral part of the practice of medicine in the same category as the practice of surgery, internal medicine or any other designated field of medicine."

SCHOLARSHIP PROGRAM

To help meet the need for an increasing number of physicians in the future, the House approved the creation of a special study committee which was asked to:

1. Present a scholarship program, its development, administration and the role of the American Medical Association in fulfilling it.

2. Ascertain the maximum to which medical schools could expand their student bodies while maintaining the quality of medical education.

3. Ascertain what universities can support new medical schools with qualified students and sufficient clinical material for teaching — either on a two year or a full four year basis.

4. Investigate the securing of competent medical faculties.

5. Investigate financing of expansion and establishment of medical schools.

6. Investigate financing of medical education as to the most economical methods of obtaining high quality medical training.

7. Develop methods of getting well-qualified students to undertake the study of medicine.

8. Investigate the possibility of relaxing rigid geographic restrictions on the admission of students to medical schools.

The House urged that the special committee be implemented promptly with adequate funds and staff so that it may make an initial report by June, 1960.

RELATIVE VALUE STUDIES

Reaffirming a previous policy statement, the House approved in principle the conducting of relative value studies by each state medical society, rather than a nationwide study or a series of regional studies by the A.M.A. The House also reiterated its authorization for the Committee on Medical Practices to inform each state medical association, through regional or other meetings, of the purpose, scope and objectives of such studies, the steps to be followed in conducting studies, the problems which may be encountered and the manner in which the results can be applied.

The House recognized, however, that some state medical societies are either not interested in relative value studies or are actively opposed to them. It pointed out that some state medical associations fear that the regional conferences of the Committee on Medical Practices will put pressure on them to carry out such studies and that this will result in the adoption of "fixed fees."

Since the regional conferences are educational in nature, the House said, it remains for each state or county medical association to accept or reject the idea of a study in its area.

The House expressed awareness of the fact that this is still a controversial matter. However, it commended the Committee on Medical Practices for its effort to carry out the instructions of the House, and it urged the committee to continue its educational work.

MISCELLANEOUS ACTIONS

In considering 44 resolutions and a large volume of annual, supplementary and special reports, the House also:

Learned that the A.M.A. Board of Trustees has appointed a liaison committee to meet with a similar committee of the **American Osteopathic Association** to consider matters of common concern;

Emphasized that local medical societies should insure that no member violates ethical traditions as they relate to ownership of **pharmacies** or stock in pharmaceutical companies;

Approved the plan of the Committee on Medical Rating of Physical Impairment to publish its new guide on the **cardiovascular system** in the A.M.A. Journal;

Recommended that Association councils and committees, whenever feasible, hold their meetings in the remodeled **Chicago headquarters;**

Called for investigation of the need, desirability and feasibility of establishing a home for **aged and retired physicians;**

Commended **Dr. F. S. Crockett,** retiring chairman of the Council on Rural Health, for his many years of devoted duty;

Urged active promotion and careful study of the newly developed "Guides for Medical Care in **Nursing Homes** and Related Facilities";

Suggested that fees for consultative examinations under programs of the **Bureau of Old Age and Survivors Insurance** should be adjudicated directly between the state medical society and the state agency involved;

Registered a strong protest to the **Veterans Administration,** urging stricter screening of non-service-connected disability patients admitted to government hospitals;

Reiterated the Association's support of the **Blue Shield** concept and directed the Council on Medical Service to submit at the June, 1960, meeting its recommendations concerning a policy statement on A.M.A. relationship with Blue Shield plans;

Suggested that S.J. Res. 41, a bill which would institute a separate program of **international medical research,** be delayed until an over-all assessment can be made of proposals now before Congress dealing with domestic and international medical research;

Endorsed the program of the Educational Council for **Foreign Medical Graduates** but also urged that judicious consideration be given to local problems involved in the July 1, 1960, deadline for certification of foreign graduates;

Urged that **medical schools** include in their curricula a course on the social, political and economic aspects of medicine;

Declared that the threat of **nuclear warfare** has imposed a tremendous responsiiblity on the medical profession, which must be prepared to assume a critically important role in such an event;

Suggested that the A.M.A. make available to school libraries **information and literature** showing the advantages of private medical care and the American free enterprise system;

Stated that examinations to determine the physical and mental fitness of **aircraft crew members** should be made by doctors of medicine with special knowledge and proficiency in certain techniques;

Urged the American people to get proper **tetanus toxoid,** original and booster, and other immunizations as indicated from their physicians, and called on A.M.A. members to cooperate in an educational program on tetanus immunization;

Recommended that all state and county medical societies establish programs for the inspection and testing of all **fluoroscopes and radiographic equipment;**

Approved the Speaker's proposal that the opening session of the House, at the **Interim Meeting,** be moved from Tuesday morning to Monday morning, with the reference committees meeting on Tuesday and the House reconvening on Wednesday afternoon;

Called upon each individual physician to wage "a vigorous, dynamic and uncompromising fight" against the **Forand type of legislation;**

Urged state and local medical societies and individual physicians to implement the A.M.A. program for recruitment of high-grade **medical students;**

Changed the title of the Section on Surgery, General and Abdominal, to the Section on **General Surgery;**

Accepted with appreciation a $2,500 contribution by Smith, Kline and French Laboratories toward establishment of a suitable

(Continued on Page 37)



P. R. BILLINGSLEY, M.D.
1887—1959

Funeral services were held December 14 for Dr. Paul R. Billingsley, 72, longtime Sioux Falls physician and surgeon.

He died at a Sioux Falls hospital December 11 after an extended illness.

Rites were conducted at Calvary Episcopal Cathedral, with Dean Harry W. Henning, Jr. officiating.

Dr. Billingsley, who practiced in Sioux Falls since 1920, was active in his profession until a short time ago.

He was born Oct. 25, 1887, at Lowellville, Ohio, and attended primary schools in Ohio and Iowa. He was graduated from high school at Clinton, Iowa, in 1906 and received a bachelor of science degree from Cornell College, Mt. Vernon, Iowa, in 1910. He married Frances Bulot April 13, 1917, in Chicago.

High Honors

In 1918 he was graduated with honors from Northwestern University. Dr. Billingsley served an internship at Cook County Hospital in Chicago during 1918 and 1919.

He was a member of the South Dakota and American Medical Associations, Seventh District Medical Society, American College of Surgeons, in which he was a fellow; South Dakota Society of the Sons of American Revolution, Sigma Chi, Sigma Nu, Alpha Omega Alpha, Nu Sigma Nu and was a vestryman at Calvary Cathedral

In Civic Theater

Dr. Billingsley was active in Civic Theater some years ago. He was a member of Rotary Club, Knife and Fork Club, Unity Lodge 130 AF&AM, Medical Reserve Corps, South Dakota State Board of Medical Examiners, Chamber of Commerce and Minnehaha Country Club. He was listed in Who's Who. He was a past president of McKennan Hospital staff.

Survivors include Mrs. Billingsley; two daughters, Mrs. William Syrett, Hinsdale, Ill. and Mrs. Mary Frances Nelson, Sioux Falls; two sons, Patrick, Chicago, and Michael, Rome, Italy, and seven grandchildren.

PRESIDENT'S PAGE



There are a few cardinal principles that seem to emerge from the study of the problems of aging.

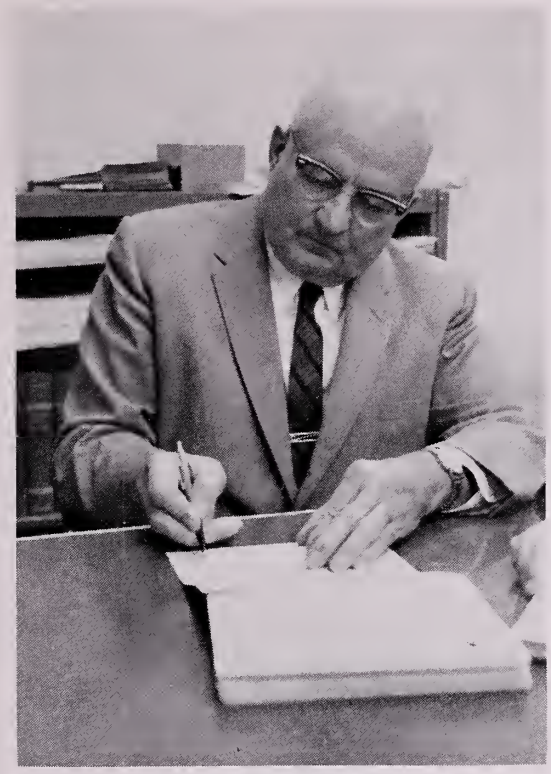
First. Elderly people should stay in their own home just as long as possible. They should take care of themselves until it is really necessary to have help and then the so called Homemaker service where some one comes in for a few hours a day for a few days a week and helps with the household chores. If this help is not enough then a Visiting Nurse service is needed along with the Homemaker service.

Second. When people can no longer stay in their own home Nursing Homes should be made available in the persons own home area. Modern, convenient Nursing Homes should be built where needed by the cooperative effort of interested citizens, churches, and local governments. Nursing homes should be provided with Infirmary wings to care for those inmates who need intensive care.

Older people need to feel that they can do productive work, that they are needed, and that they are loved.

It may take some constructive thinking to provide productive work in each community for the elderly but it can be done.

R. A. Buchanan, M.D.
President



R. A. Buchanan, M.D.

S. D. COMMUNITY SERVICES CITIED IN AMA NEWS

A recent story in the AMA News told how doctors have taken hold of civic leadership in a South Dakota city. The same story could be told in many communities in the State but we think this is one worth retelling here.

At one time the mayor of Huron, S. D. (Pop. 15,000), the president of its school board and of its chamber of commerce all were physicians.

This may be a little unusual, but in most respects the MDs of Huron are typical of those in thousands of other communities across the U. S.

In addition to giving their time and talents to a score of civic activities, Huron doctors collectively give some $18,000 in cash to charitable and civic drives each year, and contribute $40,000 to $45,000 in free medical care.

Active President: Huron is the home of Dr. Robert A. Buchanan, president of the South Dakota State Medical Association. He is president of the board of education, serves as a trustee of Huron College, has been a member of the city's recreation board since 1948, is on the state's board of medical and osteopathic examiners. Dr. Buchanan also is a past president of the Lions club, and worked on city planning after World War II.

Perhaps his biggest source of pride is the Huron Arena, a $750,000 building used for basketball, band and glee club classrooms, and for community affairs.

"If you get interested in something, you want to see it through," is his explanation of why he continues his civic activities.

Community Leaders: Two other physicians are also trustees of Huron College — Dr. W. H. Saxton and Dr. Theodore A. Hohm.

The college this year honored Dr. Hohm as a distinguished alumnus. He is chairman of the trustees' building and ground committee and led a successful drive to build a women's dormitory. He now is heading a drive to raise money for a men's dorm, a new library, and to raise faculty salaries.

Dr. Hohm and his brother, Dr. Paul Hohm, are active supporters of the college and its athletic program, providing scholarship assistance. They also serve as physicians at home games when needed.

Civic Philosophy: "The type of his work and of his education allows the doctor to assume leadership easier than some others in a community," Dr. Ted Hohm believes.

"Physicians definitely should participate in community affairs," asserts Dr. Saxton. "It makes you broad minded. You think of something besides medicine — of civic and state problems."

Dr. Saxton is a good example of his philosophy. He is a past president of the chamber of commerce, of his service club, served on the board of elders of his church, is a Silver Beaver in Boy Scouts, an active Mason, and past president of the state medical association.

Two-Way Affair: Most of Huron's physicians agree that civic work is a two-way affair. While it contributes toward the community, it also helps the doctor's practice by making him a part of the community. None thought his outside activities interfered with his practice.

Dr. Paul Hohm's contributions to Huron have been along a different line. In partnership with another man he has invested in a

(Continued on Page 37)

wherever there is inflammation, swelling, pain

VARIDASE®

Streptokinase-Streptodornase Lederle

BUCCAL Tablets

conditions for a fast & comfortable comeback

Host reaction to injury or local infection has a catabolic and an anabolic phase. The body responds with inflammation, swelling and pain. In time, the process is reversed. VARIDASE speeds up this normal process of recovery. By activating fibrinolytic factors VARIDASE shortens the *undesirable phase,* limits necrotic changes due to inflammatory infiltration, and initiates the constructive phase to speed total remission. Medication and body defenses can readily penetrate to the affected site; local tissue is prepared for faster regrowth of cells. In infection, the fibrin wall is breached while the infection-limiting effect is retained. In acute cases, response is often dramatic. In chronic cases, VARIDASE Buccal Tablets can stimulate a successful response to primary therapy previously considered inadequate or failing.

for routine use in injury and infection
...new simple buccal route

VARIDASE Buccal Tablets should be retained in the buccal pouch until dissolved. For maximum absorption, patient should delay swallowing saliva.
Dosage: One tablet four times daily usually for five days. When infection is present, VARIDASE Buccal Tablets should be given in conjunction with ACHROMYCIN® V Tetracycline with Citric Acid.
Each VARIDASE Buccal Tablet contains: 10,000 Units Streptokinase and 2,500 Units Streptodornase.
Supplied: boxes of 24 and 100 tablets.

1. Innerfield, I.: Clinical report cited with permission
2. Clinical report cited with permission

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Pearl River, New York

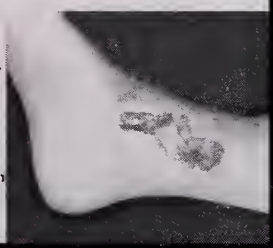




FORCE INJURY

severe bruises . . . swelling . . . cleared by fifth day[2]





VARICOSE ULCER

15 years duration . . . resolved with VARIDASE[1]





INFLAMMATORY DERMATOSIS

rapidly spreading rhus dermatitis healed within a week[1]





INFECTED LACERATION

marked reversal in 3 days . . . returned to school . . . closure advanced[1]





THROMBOPHLEBITIS

back on his feet in a week after recurrent episode[1]

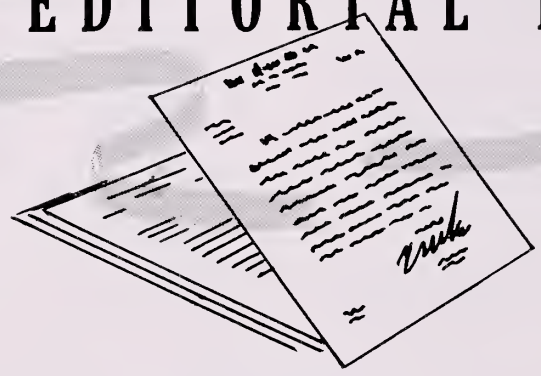




REFRACTORY CELLULITIS

normal routine resumed after 4 days of VARIDASE[1]

EDITORIAL PAGE



WHATS A CONSERVATIVE?

With another national election looming, much thought is being given to candidates and issues, whether they are liberal, conservative, or middle-of-the-roader.

Most physicians consider themselves free-enterprisers or conservatives but many aren't sure what constitutes conservatism.

One person recently described a conservative as one who is not "against everything" as the liberal is inclined to say, but is "for" the system that made our country great. The greatest liberals amongst our forefathers would be conservatives today because they believed in freedom as opposed to State Socialism.

How any liberal can be for confiscatory income taxes that level the entire society to one of mediocrity is inexplicable. The conservative who opposes the Forand bill is not obligated to provide a substitute. We already have "real" medical care today without providing governmental substitutes. The liberal who denies this is merely looking for complete government control of all activities in creating the mediocre society he hopes to dominate.

The conservative forces must not be complacent. Every physician who believes that inflation is the thief of the results of his time and energy; who believes that government in medicine, in insurance, in farming, is inefficient and costly; who believes in the innate dignity of man, should take a long, searching look at next years candidates and their past records. If you see that any of the candidates do not believe as you do on major issues, 1st your friends know — and be sure you utilize your right to vote. Conservative government may well die in 1960-61 if steps are not initiated now to maintain constitutional American government.

GIVE TO A.M.E.F.

Still one of the best ways for doctors to show their interest in a free medical profession is to support medical education through the American Medical Education Foundation.

South Dakota's Fall drive has brought in $6500.00 in contributions, but much more can be done if everyone participates. Gifts can be earmarked for the school of your choice and every penny goes to that school. No contributed money is ever spent on administration and of course, it's deductible. May I suggest that if you haven't contributed to AMEF during the Fall, that you do so now? Make the check payable to A.M.E.F. and send it to our executive office.

R. A. Buchanan, M.D.

WHAT THE FACTS SHOW

Revolutionary advances in medicine have opened entirely new approaches to curing illness. Since 1900, better medical care has helped to increase the life expectancy of the average American by more than twenty years.

Obviously, this is very real progress. In big measure, this has been made possible by the opportunity of American physicians to work in freedom — as individual to individual, as physician to patient, free of governmental dictation.

When this opportunity to work in freedom is restricted or abolished, the American people suffer, and American medical progress suffers.

Yet there is now under consideration in Washington a bill that would undermine this freedom and destroy the voluntary progress that has achieved so much for our citizens. This bill (H.R. 4700), sponsored by U. S. Rep. A. J. Forand of Rhode Island, would finance — through higher social security taxes — hospital, surgical and nursing home treatment for some 16 million persons eligible for social security payments.

There are many reasons why this legislation should be decisively defeated.

The bill — a political approach to a health problem developed by non-medical people — would put the Federal Government into an area of health care in which it is badly equipped to function; it would cripple and gradually replace voluntary health insurance; it would jeopardize the traditional doctor-patient relationship; it would put an agency of the Federal Government in the role of setting fees for physicians and charges for hospitals and nursing homes; it would mean that an agency of the Federal Government would administer the program and stipulate the type of care to be provided; it would swing open the gates to the socialization of medicine.

Moreover, the bill would be staggeringly expensive. Authoritative estimates indicate the cost would be in the neighborhood of $2 billion for the first and second years. Yet this would be only the beginning. The costs would keep on rising. Everyone who pays social security taxes would be forced to help foot the bill. This means paychecks would keep on dwindling.

But, most important of all, the bill would reduce the quality of medical care. It would result in poorer — not better — medical care for the people of this country.

The truth is that the health requirements of our citizens — the elder citizens certainly included — can never be met through inflexible methods made compulsory by the Federal Government.

When the Federal Government, no matter how good its intentions, attempts to solve the challenges posed by those millions of Americans over 65, it is foredoomed by the very inflexibility of its approach to certain failure.

What do the facts show? The facts show that private, voluntary methods are working and working well. At this time about 43% of our citizens over 65 are covered by private health insurance. Much of this growth has occurred within the past few years. Certainly, there is every sign that this growth will continue. Sound estimates indicate that 75% of our elder citizens who need and want such protection will be covered by voluntary health insurance by 1965 and 90% by 1970.

Actually, that is only a small part of the story of the voluntary progress of our elder citizens in recent years. Throughout the United States, retirement villages, new nursing homes, chronic disease care centers, home care programs, recreational facilities and research projects have been established, and many, many more are on the way.

All this is good. Still, it is essential that American medicine does not attempt to relax and rest upon its oars. There is still work to be done. It is vital that more and more physicians take a role of leadership in their own communities in expanding and improving practical programs that will help the aged to help themselves. It is vital that physicians throw their weight behind such programs as homemaker services, progressive patient care, high-standard nursing home care, and so on. It is vital that physicians encourage their patients to carry Blue Cross, Blue Shield or commercial insurance.

And, no doubt about it, it is vital that physicians speak out their convictions. The Forand bill is compulsory national health insurance. It is bad medicine — bad for the nation and bad for the nation's health. It is the responsibility of physicians to help to make this fact plain — so plain that no one can fail to understand.

SIOUX VALLEY MEDICAL ASSOCIATION

(Cooperating with the University of South Dakota School of Medicine)

Tuesday, February 23, 1960
METHODIST HOSPITAL
MORNING SESSION

9:00 Movie—"Diagnosis and Office Management of the Arthritides."
9:40 **The Tonsil Problem** — Discussion
Dr. Worthy Boden and Dr. J. E. Reeder, Jr.
10:10 "The Immediate Care of the Hand Injury." Dr. Earl Mumford
10:30 **Diabetes Mellitus** — Panel Discussion
"Fundamental Aspects" — L. C. Smith, Ph.D., Associate Professor of Biochemistry, University of South Dakota School of Medicine.
"Pediatric Aspects"—Dr. James F. Boysen
"Obstetrical Aspects" — Dr. Leonard H. Boggs
"General Aspects—Dr. Robert G. Larimer
12:00 Luncheon—Courtesy of Methodist Hospital

AFTERNOON SESSION

1:30 "Chest Roentgenography in General Practice" — Dr. L. E. Collins
1:50 "Tranquilizers" — Dr. Philip H. H. Pugh
2:10 "The Ileal Bladder" — Dr. Dwayne Howard
2:30 **Coronary Artery Disease** — Symposium.
"Etiology: Latest Theories and Facts." Edwin H. Shaw, Ph.D., Department of Biochemistry, University of S. Dakota School of Medicine.
"Diagnosis Syndromes." Dr. Donald J. Wagner
"Therapy and Prognosis." Dr. E. D. Erickson
"Will Surgery Help?" Dr. C. L. Beye

EVENING SESSION

7:00 Registration — Mezzanine Floor, Sheraton-Martin Hotel
7:30 SMOKER
The members of the Woodbury County Medical Society will be your hosts.

Wednesday, February 24, 1960
SHERATON-MARTIN HOTEL
MORNING SESSION

8:45 Exhibits Open.
8:55 Movie — "Emergency Surgery."
9:30 William E. Adams, M.D., Chicago, Illinois, Professor of Surgery, Univ. of Chicago.
"Initial and Emergency care of Acute Abdominal and Chest Injuries."
10:10 George Bedell, M.D., Iowa City, Iowa, Assistant Professor of Medicine, University of Iowa.
"Practical Aspects of Pulmonary Function Studies."
10:50 Medico-legal discussion — speaker not firm yet.
12:00 Luncheon — Discussions.

AFTERNOON SESSION

1:30 Eugene Der Lackie, M.D., Chicago, Illinois, Otologist, Northwestern University.
"Hearing Problems for General Practitioners."
2:10 William E. Adams, M.D.
"Primary Care of Multiple Injuries."
2:50 George Bedell, M.D.
"Modern Concepts of Treatment of Bronchitis, Emphysema, and Bronchial Asthma."
3:30 Discussion of afternoon Papers.

EVENING SESSION

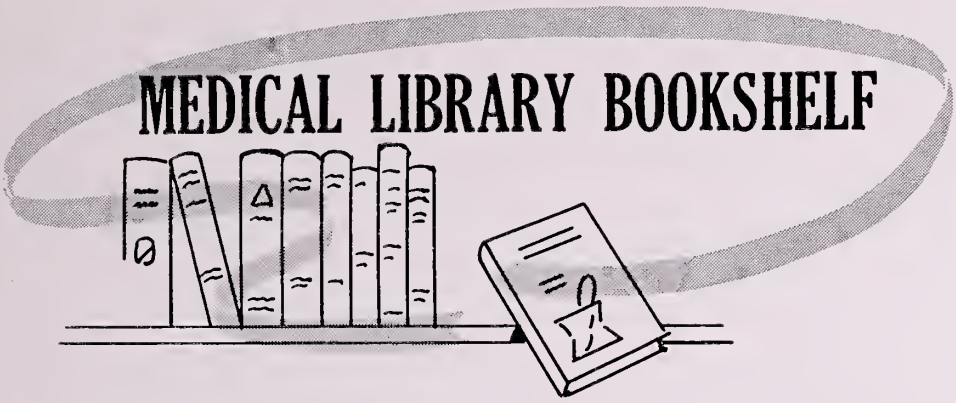
5:30 Social Hour, Assembly Room.
Your Hosts: Ken Harmon and Ray Cusack, Cusack — Harmon Company.
7:00 Banquet — Ballroom.
Dr. J. M. Krigsten, President, Presiding.

Thursday, February 25, 1960
SHERATON-MARTIN HOTEL
MORNING SESSION

8:45 Exhibits Open.
8:30 Movie — "Meconium Ileus."
9:30 Roy E. Crowder, M.D., Melrose, Massachusetts, Captain U. S. Navy Medical Corps.
"Clinical Aspects of Some Hormone-Secreting Tumors."
10:10 Henry Cramblett, M.D., Wake Forest, North Carolina, Wake Forest Medical School.
"Viral Infections in Children, I."
10:50 Charles P. McCartney, M.D., Chicago, Illinois, Associate Professor of Obstetrics and Gynecology, University of Chicago.
"Significance of Abnormal Uterine Bleeding During the Menopausal Period."
12:00 Luncheon — Discussions.

AFTERNOON SESSION

1:30 Roy E. Crowder, M.D.
"Changes During Forty Years of Obstetrics."
2:10 Henry Cramblett, M.D.
"Viral Infections in Children, II."
2:50 Charles P. McCartney, M.D.
"Current Management of Toxomias of Pregnancy."
3:30 Discussion of Afternoon Papers.



The AMA News for November 30, 1959, in an article concerned with the M.D.'s contributions to medical care, gives the results of a recent survey in which it is stated that South Dakota practicing M.D.'s contribute more than one and a half million annually in free medical services and cash donations to charity. The average South Dakota doctor spends 10 percent or more of his time serving patients who are "medically indigent" and contributes $2,365 a year for charity or free care. Actual cash donations to charity average $970.80 per M.D. The average M.D. works a 65 hour week, with some working as much as 120 hours. In addition he spends nearly two hours a week in civic activities. One third of the South Dakota doctors have held elective offices. Not included in this survey are the scholarships, awards and loans awarded by a number of doctors, clinics and the State Medical Association to outstanding medical students at USD Medical School to assist those needing financial aid for their medical education.

GIFT BOOKS TO THE MEDICAL LIBRARY

In last month's Medical Bookshelf, **Handbook of Poisons** by R. H. Dreisbach, Lange Medical Publications, 1955, was reviewed by Dr. F. E. Kelsey, head of the Pharmacology Department. Since then the library has received from the publishers a gift copy of a new second edition of this book published in 1959. The title has been changed to **Handbook of Poisons: Diagnosis and Treatment.** Added in the front is an outline indicating First Aid Measures in Poisoning which would be useful to a physician for giving first aid treatment in response to an emergency inquiry and which could be carried out by a layman. The entire first section has been revised and contains excellent material on general considerations of poisons and poisoning. Chapter two has been changed to "Diagnosis and Evaluation of Poisoning" with a good summary chart placed at the beginning of the chapter. There is considerable added material throughout the book, with additional charts, bringing it up to date. This book is highly recommended for purchase by any practicing physician.

Synopsis of Gynecology by Robert J. Crossen, Daniel Winston Beachem and W. D. Beachem, 5th ed., Mosby, 1959, was received for reviewing from the publisher.

Dr. Crossen is Associate Professor of Clinical Gynecology and Obstetrics at Washington University School of Medicine; Dr. D. W. and W. D. Beachem are Assistant Professor

and Professor of Clinical Obstetrics and Gynecology at Tulane University.

In this new revised 5th edition, two new chapters have been added, one on endometriosis and the other on pregnancy complications, including new discussions of abortion and of hydatidiform mole and choriocarcinoma. New information including data on chromosomal and hormonal factors in inter-sexuality; the use of adrenal corticoids in treatment of pelvic infections, and current opinion on the management of uterine prolapse has been incorporated in the appropriate chapters. The book should be of value to our medical students who are not required to purchase a textbook for study in the short course they take in Gynecology and who have use for a good authentic condensed outline of the anatomy, physiology, examination, diagnosis and treatment which is to be found in this synopsis.

The practicing physician will also find it helpful as a guide in reviewing and in understanding the pelvic disturbances he encounters in his practice. Many good illustrations accompany the synopsis and especially valuable are the up-to-date selected references at the end of each chapter. Malformations; diseases including malignant of the vulva and vagina; malposition of the uterus; ovarian tumors; complications of pregnancy; disturbance of function; infertility, and medicolegal points in gynecology are some of the chapters included.

Living Beyond Your Heart Attack by Eugene B. Mozes, Prentice-Hall, 1959.

Dr. Mozes is a heart specialist in Canton, Ohio. Written particularly for the layman who has been the victim of a heart attack, this book is meant to encourage his return to normal, active living. The book points out that of the million persons who have heart attacks each year, the majority are middle aged men past 45 and that males outnumber females three to one. The author emphasizes that a heart attack doesn't mean invalidism or an abbreviated life. After the prescribed period of rest, usually six weeks, part of which need not be spent in bed, the patient can gradually assume his normal life. The convalescent period is needed for the heart muscle which has been deprived of blood through the obstruction of the coronary artery to heal. It is interesting to note as stated in this book that many persons actually sustain small mycardial infarcts without being aware of it, and that in autopsies performed by pathologists on persons who died from other diseases than heart attacks, scars are often found on the heart. Some people may have greatly narrowed coronaries and never suffer a heart attack because of the development of a highly efficient collateral circulation.

A description is given of the anticoagulants, heparin and decumarol, use of which in the active stage of a heart attack represents the most modern advances in medical treatment by preventing the formation of fresh thrombi and thereby preventing new heart attacks. Such factors as cholesterol and calories; heredity and body build; temperament and tension; age and sex as affecting the heart are included. An altogether readable book, authentic and realistic, which could be read by layman and doctor with much profit to both.

Mrs. Esther Howard
Medical Librarian

THE EFFECT OF ADVANCING AGE UPON THE HUMAN SPINAL CORD

L. Raymond Morrison, M.D., with collaboration of Stanley Cobb, M.D. and Walter Bauer, M.D.; 127 pages; Published for the Commonwealth Fund by the Harvard University Press, Cambridge, Mass., 1959.

Here is presented a clear and concise study of all levels of the human spinal cord based upon variations found in normal cords from the second to the ninth decade of life. The primary purpose of the investigation was to establish a base line, or normal control, for any studies of the human spinal cord in which factors associated with increasing age must be taken into account.

The monograph is divided into two parts. The first part is concerned with a meticulous histological description of the spinal cord changes with discussions of the background of the problem and many special points in technique and interpretation. The second part is devoted to an atlas of the normal spinal cord in which illustrations and histological descriptions of each segment of the spinal cord are presented.

By leafing through the text and observing the excellent photomicrographs and accom-

panying descriptions given for the spinal cord segments of different age groups, the general reader may quickly ascertain the main course of investigation and the nature of the associated inferences. A more painstaking examination will be required for those who wish to assess the evidence and determine the validity of the studies on which the inferences rest.

In addition to serving as an excellent reference work, the book will appeal to the teacher, student and practicing clinician respectively.

Dr. Floyd Foltz

Anatomy Department

AMA 13th CLINICAL MEETING—

(Continued from Page 28)

award honoring the name of **Dr. Thomas G. Hull,** retiring secretary of the Council on Scientific Assembly, and

Reaffirmed the "Suggested Guides to Relations Between Medical Societies and **Voluntary Health Agencies,"** which were adopted at the December, 1957, meeting in Philadelphia.

At the Tuesday opening session, six state medical societies presented nearly $250,000 to the American Medical Education Foundation. The checks turned over to Dr. George F. Lull, president of AMEF, were: California, $156,562; Indiana, $35,570; New York, $19,546;Utah, $10,355; New Jersey, $10,000, and Arizona, $9,263.

F. J. L. Blasingame, M.D.

Executive Vice President

American Medical Association

Medical and X-Ray Technician Looking For A Small Town Position with Single Physician or Small Group. Contact the Medical Association Office.

SOUTH DAKOTA COMMUNITY SERVICES—

(Continued from Page 31)

foundry building, an office structure, and in other businesses. The foundry will employ 30-50. The office building kept government offices in Huron that were to be moved. Nearly 100 families are involved.

Robert D. Lusk, Huron newspaper publisher, said Dr. Paul Hohm has made "substantial contributions to the community" through his investments.

Service Award: Dr. Fred Leigh's civic work won for him a Distinguished Service Award from the South Dakota Junior Chamber of Commerce.

He is past president of the Rotary Club, country club, and the Huron Arena Corp., a non-profit organization to bring top-flight entertainment into the community.

Dr. Clifford F. Gryte is active in the Community Concert Series, The Salvation Army, and church work.

Dr. H. L. Saylor, Jr. is another president of the chamber of commerce, an advisor to local chapters of American Cancer Society, National Foundation, Central South Dakota Cerebral Palsy Assn., a member of a YMCA advisory committee for the North Central area, and is helping raise money for Huron College.

Retired now from active practice and active civic work is 71-year-old Dr. John S. Tschetter. But in his younger years Dr. Tschetter practiced medicine and politics with equal fervor. He served on the city commission for 17 years, was Huron's mayor 11 years.

He was Democratic county chairman for 15 years and district chairman five years. In 1948, he was an unsuccessful candidate for the U. S. Senate in the Democratic primary.

There are 19 MDs in Huron and all take an active part in the affairs of the community. But they are reluctant to include the free medical care they give as part of their civic activities. They consider that professional responsibility.



This is your MEDICAL ASSOCIATION

Pop's Proverbs

Many a young body has very seductive, mature, demanding, motions, but who said you should meet the demand.

HOSPITAL INFECTION PUBLICATION SET

Hospital infections committees now have a manual for organizing hospital in-service training programs on the proper prevention and control of hospital acquired infections. Identified as Public Health Service Publication No. 692, it was prepared by the Communicable Disease Center, with the assistance of the American Hospital Association, and is for sale by the Superintendent of Documents, Washington 25, D. C., for 30c a copy.

PROF. LIABILITY IN HOSPITALS IS FILM SUBJECT

The film "No Margin for Error" is now available for loan from the Division of Health Education, South Dakota Department of Health, Pierre, South Dakota.

The cause and affect of human mistakes in the complex system of the modern hospital are depicted in the film "No Margin for Error" produced by the American Medical Association, the American Hospital Association and the William S. Merrell Company. The skilled treatment of professional liability in hospitals is presented in this 16 mm black and white film with a 30-minute running time.

This film is one that you will want to show to the members of your nursing and medical staff.

Because of the demand for its showing, we would advise you to make two or three selections for dates of showing of the film from a month to three months in advance.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

The next scheduled examination (Part II), oral and clinical, for all candidates, will be conducted at the Edgewater Beach Hotel, Chicago, Illinois, by the entire Board from April 11 through 16, 1960. Formal notice of the exact time of each candidate's examination will be sent him in advance of the examination dates.

Candidates who participated in the Part I examinations will be notified of their eligibility for the Part II examinations as soon as possible.

Current Bulletins of the American Board of Obstetrics and Gynecology, outlining the requirements for application, may be obtained by writing to the Secretary:

Robert L. Faulkner, M.D.
2105 Adelbert Road
Cleveland 6, Ohio

GP's SCHEDULE PHILADELPHIA MEETING

The American Academy of General Practice will hold its 12th Annual Scientific Assembly, March 21-24, 1960, in Philadelphia's Convention Hall. More than 4,000 family doctors and 3,000 residents, interns, exhibitors and wives will attend the four-day program highlighting recent progress in medicine and surgery. The Academy has more than 26,000 family doctor members and is the nation's second largest medical association.

The Philadelphia Assembly program lists 31 prominent medical educators who will discuss a variety of subjects ranging from arthritis and anemia to surgery, geriatrics and mental health. The doctors will also visit more than 100 scientific and 300 technical exhibits. Many of the scientific exhibits will relate directly to the scientific program. They have been carefully selected to answer questions posed by the doctor in active practice. All of the nation's major pharmaceutical firms will be represented in the technical exhibit area.

During the meeting, the doctors will have a chance to be on the other end of a stethoscope during physical examination sessions. More than 600 doctors took physical examinations at last Academy meeting. Many learned, for the first time, that they needed immediate medical attention.

The scientific program will start at 1:30 p.m., Monday, March 21, and end at noon, Thursday, March 24. The Academy's policy-making Congress of Delegates will meet prior to the scientific sessions, at 2 p.m., Saturday, March 19. All sessions of the Congress and many social functions will be held in the Bellevue-Stratford hotel.

Wednesday evening, Mar. 23, following induction ceremonies for Academy President-elect John Walsh, Sacramento, Calif., more than 2,000 guests will attend a reception and dance honoring President Fount Richardson, Fayetteville, Ark.

The Academy Assembly is this year combined with the Philadelphia Postgraduate Institute.

S. D. DOCTORS FEATURED AT N. C. CONFERENCE

Two South Dakota physicians were featured as speakers on the program of the North Central Medical Conference in Minneapolis on November 22nd.

Dr. Robert Hayes, Winner, reviewed the state legislative program of the S. D. State Medical Association and **Dr. L. J. Pankow,** Sioux Falls, spoke on Grievance Committee operation.

Other highlights of the program included discussions of Federal Health legislation, political action committees, Blue Shield, Medical-legal problems, etc.

Attending the meetings from S. D. were: **Drs. R. A. Buchanan,** Huron; **H. Russell Brown,** Watertown; **A. A. Lampert,** Rapid City; **D. A. Gregory,** Milbank; **A. W. Spiry,** Mobridge; **R. H. Hayes,** Winner; **C. R. Stoltz,** Watertown; **Howard Wold,** Madison; **J. J. Stransky,** Watertown; **Charles Ryan,** Watertown; **A. P. Peeke,** Volga; **L. J. Pankow,** Sioux Falls; **P. P. Brogdon,** Mitchell; and executive-secretary **Foster. Mrs. Wold** and **Mrs. Stoltz** represented the S. D. Auxiliary at several sessions.

GOV. HERSETH DEDICATES HOME

Governor Ralph Herseth was the principal speaker at the dedication of the Lake Preston home for the aged on Sunday, November 15th.

Built by community subscription and under the direction of the S. D. Hospital and Home Association, the new home accomodates more than 60 retired persons. This is the forth home to be operated by the Association.

NEWS NOTES

Dr. Albert Repsys has relocated at Buffalo where there has been no physician since he left two years ago.

* * *

Dr. Roy C. Knowles, Sioux Falls, has been appointed to the Governor's Committee on Aging.

* * *

Dr. Gordon O. Olsson, Rapid City, has been named Chairman of the South Dakota Division of the American Academy of Pediatrics.

* * *

Dr. Howard Wold, Madison, has been elected president of that City's Chamber of Commerce.

7th DISTRICT ELECTS SHREVES

Dr. Howard Shreves, Sioux Falls, was elected president of the 7th District Medical Society at its December meeting in Sioux Falls. **Paul Reagan, M.D.,** Sioux Falls was elected vice-president. **Drs. A. K. Myrabo** and **Dorence Ensberg** were re-elected secretary and treasurer respectively.

Approximately forty members attended the meeting to hear a lecture on Corneal Transplants by **Dr. Fred Blodie** of the University of Iowa's Department of Ophthalmology.

ROANOKE EENT MEETING ANNOUNCED

The Gill Memorial Eye, Ear, and Throat Hospital is to present its 33rd Annual Spring Congress in Ophthalmology and Otolaryngology April 4-9, 1960 at Roanoke, Virginia.

Some guest speakers on the program, include Drs. John A. Dyer, Rochester, Minnesota; John W. Henderson, Ann Arbor, Michigan; George E. Shambaugh, Chicago, Illinois; James E. Crushore, Detroit, Michigan.

For more information on the meeting write to:

Superintendent, P. O. Box 1789, Roanoke, Virginia.

DR. GEIB HEADS BLACK HILLS MD'S

Members of the Black Hills Medical Society heard a talk on "Histophatology of Amino Acid Deficiency" at the annual meeting held December 10th at the Franklin Hotel in Deadwood.

Dr. Earl B. Scott, professor of anatomy, School of Medicine, University of South Dakota at Vermillion, guest speaker, presented the study of what happens when there are inadequancies of proteins in the diet bassed on experiments with rats.

In the annual election, Dr. W. A. Geib, Rapid City, was chosen president to succeed Dr. R. A. Boyce, Rapid City. Other Officers are Dr. Charles E. Roper, Hot Springs, vice-president; Dr. John C. Elston, Rapid City, secretary-treasurer; Drs. Boyce, Gieb, John Feehan, Rapid City; W. E. Jones, Sturgis, T. E. Mead, Spearfish, delegates to the South Dakota Medical Society convention; Dr. J. D. Bailey, Rapid City, counselor; Dr. Ben Munson, Rapid City, board of censorship; Dr. Arthur A. Lampert, Rapid City, national delegates.

Dr. Lampert discussed medical problems of the aged with the group. Also talked were changes in the premarital examination law and recommended certain changes to be presented at the next legislature.

Members of the society were guests of the Sisters of St. Joseph's Hospital at a luncheon at the Franklin Grill. They were presented with favors, Deadwood souvenir ashtrays, by the sisters. A social hour followed.

AMEF TOPS MILLION DOLLARS

The American Medical Education Foundation announced on December 15th that contribution to the fund had reached the million dollar mark for the year 1959.

According to the announcement, this figure would out do the total for the year 1958.

South Dakota's physicians contributed in excess of $6,-200.00 which is approximately the same as 1958.

DR. FRANCIS TOBIN HONORED BY POPE

Dr. Francis J. Tobin, Mitchell, received the Knight of St. Gregory award in December, which was granted by Pope John in recognition of outstanding Catholic Church work by a layman.

According to the citation, published in the Bishop's Bulletin "Dr. Tobin is an ardent Catholic in every sence of the word. His life exemplifies the many years of training he had under the Jesuit Fathers. His five daughters and four sons have all been educated in parochial schools and Catholic colleges. Together with the doctor, this fine Catholic family have been most understanding of the needs of the parish, hospital and school."

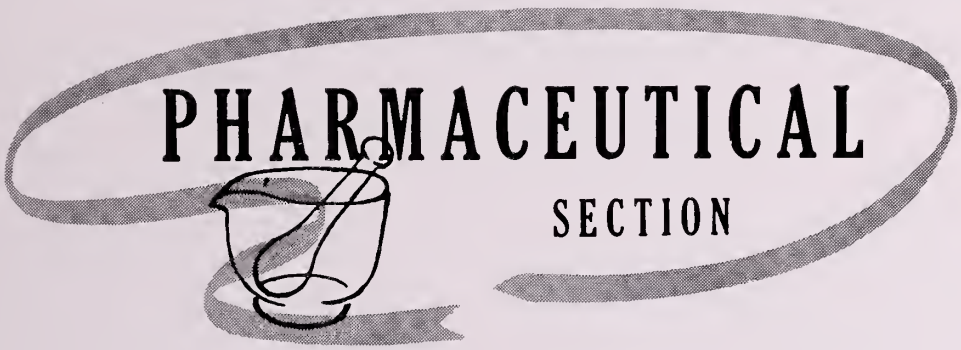
The award was presented by Bishop Hoch of the Sioux Falls Diocese.

NEWS NOTES

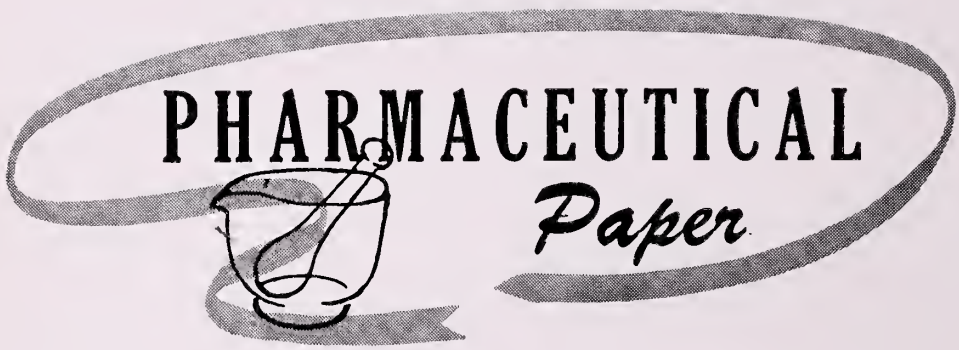
Dr. Michael Sabbagh, Lemmon, is contracting an office in McIntosh two mornings a week.

* * *

Dr. Parry Nelson, formerly at Redfield and Deadwood, has joined the Medical Arts Clinic in Watertown. He is associated with **Dr. S. J. Walters** and **Dr. Valdis Brakss.**



HAROLD S. BAILEY, PH.D.
EDITOR
Division of Pharmacy
South Dakota State College
Brookings, South Dakota



CHOLESTEROL: A MAJOR MEDICAL ENIGMA*
Part I

Biochemical Considerations

The problem of cholesterol in the blood — the extent of its contribution to atherosclerosis or "hardening of the arteries," and how to prevent its accumulation in arterial plaques — continues to occupy the attention of a large segment of the medical world. Through the solution of this problem, many believe, we will be able to effect a dramatic reduction in the incidence of this country's No. 1 killer, heart disease.

A lot is known about cholesterol, but much remains to be learned. The principal difficulty facing the researchers is the fact that atherosclerosis occurs naturally only in man, and studying the inside of the arteries of a living man is a virtual impossibility at this time.

Existing knowledge about cholesterol and its effects on the human body can, in general, be grouped into three broad categories:

1. Those areas where there is general agreement.
2. Those areas where there are strong differences of opinion, even disagreement.
3. Those areas where the only answer is, "We just don't know."

What Is Cholesterol?

One could well conclude from its frequent discussion in the lay press that cholesterol has replaced "Virus X" as the popular medical subject of conversation. Almost daily there appears some mention or discussion of cholesterol in the press. No doubt many persons who speak profoundly about cholesterol do not know what it is.

Simply stated, cholesterol is a lipid, with the feel of soft wax, yellowish-cream in color. It is not a fat, however. Chemically it is an alcohol of high molecular weight. The empirical formula is $C_{27}H_{45}OH$. It is a common chemical and is believed to be an essential constituent of every living cell.

Cholesterol appears to be a vital part of our life and we can not escape it completely. For in addition to that which we ingest in food, the body manufactures it in a number of areas, principally the liver. When food cholesterol is lowered, the body will manu-

* Another of a series of articles designed as a "review" for the pharmacist and summarizing present day thinking on a particular medical problem. Material for this article was supplied through the courtesy of Edward Gottlieb Associates.

facture it from fatty foods. When these are drastically reduced, it can convert carbohydrates into cholesterol; it can also make it from fat tissue stored in the body.

By the use of radiocarbon-labeled compounds, biochemists have found that acetate fragments from carbohydrate and fatty acid metabolism can be converted to cholesterol. This probably takes place through formation of a 4-carbon intermediate. This intermediate may undergo a type of multiple condensation to form a high molecular weight chain built of isoprene units. Search for such an intermediate yielded the aliphatic hydrocarbon, squalene. Originally found in shark liver, squalene is found in mammalian liver and radiocarbon labeled squalene is converted into cholesterol. The actual process of conversion is not known but may include the formation of another sterol, lanosterol.

From this it would seem useless to try to control your intake of cholesterol. But this is not the case, as we will see later.

Principal every-day foods high in cholesterol are the saturated fats, including the yolk of eggs, butter, cream, whole milk, cheese, fatty meats.

The highest concentration of cholesterol in the body appears in the bile, where it helps in the emulsification and absorption of fats from the intestinal tract.

The first recorded suspicion that cholesterol is the villain in heart disease was in 1913, by a team of Russian investigators. Since then the medical world has been slowly, carefully closing its sights on this problem.

It is impossible to say what the "average" cholesterol content of the blood should be. This is because of differences in metabolism between individuals.

If a person's metabolism is functioning properly, and his intake of cholesterol is not excessive for his needs, the blood cholesterol level will remain fairly constant over a long period, and presumably it will be a "safe" level. If, however, there is a malfunction in the metabolic system, or if the cholesterol intake is excessive, then the blood level will be high. If the intake of this substance is below the body's requirement, then the liver will manufacture the deficit. Except when there is an abnormal condition, the liver will not produce an excess of cholesterol. A balance between cholesterol need and intake, therefor, is important.

In addition to being a prominent part of the plaques associated with atherosclerosis, cholesterol also is a major constituent of gallstones. Gallstones (biliary calculi) may consist of pure cholesterol or cholesterol mixed with the calcium salts of bilirubin, carbonate or phosphate. Pure gallstones may result from an inability of the gallbladder to handle the cholesterol reaching it. Mixed gallstones are often due to infection and inflammation of the gallbladder. This is another reason, many doctors say, for keeping the cholesterol blood levels normal.

It should be emphasized that there is as yet no conclusive proof that cholesterol causes the dangerous plaques; but it is so clearly identified with them that whether it is a cause or an agent used by some other condition, many researchers feel that if it were not present in excessive amounts the plaques would not continue to enlarge.

The Kinds of Fats

In recent years it has become widely accepted that the kind of fat eaten is just as important, and often more so, than the amount eaten.

Generally speaking, there are three kinds of fats based on the type of fatty acids present in the molecule. Saturated and unsaturated refers to the absence (saturated) of double bonds or the presence (unsaturated) of double bonds between carbon atoms of the molecule. Monounsaturated refers to the presence of several double bonds in the structure. The three types are:

1. Saturated — These raise blood cholesterol and include butyric, caproic, caprylic and capric acids of butter fat; lauric and myristic acids of coconut oil; palmitic and stearic acids of animal fat; and arachidic acid of peanut oil.

2. Monounsaturated — These neither raise nor lower blood cholesterol. The principal fatty acid of this type is oleic acid found in olive oil.

3. Polyunsaturated — These lower blood cholesterol and include the fatty acids found in linseed oil, cottonseed oil and corn oil.

Since so much of our calories come from fats, we should identify these fats according to food source:

1. Vegetable fats, such as corn oil and cottonseed oil — These are largely unsaturated,

at room temperature are liquid, and are high in essential fatty acids.

2. Animal fats, such as butter, lard, beef and pork fat — These are largely saturated and appear in solid form. They are low in essential fatty acids.

3. Marine fats (fish, seafood) — These are largely unsaturated and appear in liquid form. They are high in essential fatty acids.

4. Hydrogenated vegetable fats, such as margarines, shortenings — These fats were originally unsaturated, but have become saturated through the process of hydrogenation, which converts them from liquid to solid form. They are low in essential fatty acids.

One point of general agreement among medical researchers is that the polyunsaturated fats will lower blood cholesterol. These include the essential fatty acids:

1. Linoleic
2. Linolenic
3. Arachidonic

There is considerable medical evidence that the first, linoleic, is most important in lowering cholesterol levels. It is believed to play an essential role in skin maintenance, fat synthesis and growth stimulation. Linoleic acid is the only one of the three which cannot be synthesized by the body in sufficient amounts, so must be supplied in the diet.

The amount of cholesterol in the blood can be determined rather easily from a blood sample. The medical profession is generally in agreement that every person 30 years and over should have periodic cholesterol level checks, and more especially those 50 and over.

For some reason which can only be guessed at, women before the menopause have lower blood cholesterol levels than men; after the menopause the rates are about the same for both sexes. The postulation is that the female hormones in some way help keep the level down. Attempts to use female hormonal injections to lower cholesterol in the male have not proved generally successful, however.

An interesting corellary of this fact is that fewer women in the age groups before menopause die of atherosclerosis; after menopause the disease incidence is about the same for both sexes. This is one of the many points supporting the belief that cholesterol may have a definite bearing on deaths from coronary heart disease.

(To be continued)

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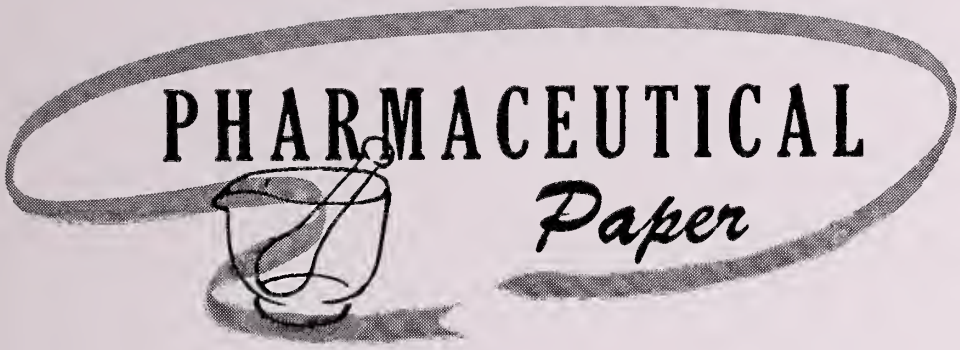
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PROGRESS IN CANCER CHEMOTHERAPY*

by

John R. Heller, M.D.**

Bethesda, Maryland

The several hundred diseases that are grouped under the term cancer take more lives in the United States each year than does any other cause, with the sole exception of heart and circulatory diseases. It has been estimated that 450,000 new cases of cancer are diagnosed every year, and that annually about a quarter of a million persons die of malignant diseases. At all times, there are about 700,000 persons under treatment for cancer. If these trends continue at their present rate, 40 million Americans now living will develop cancer, and 26 million of them will die of it.

One of the more promising approaches toward finding a way to meet this challenge is chemotherapy research. Treatment with drugs offers the most promise for the future in finding ways to treat tumors beyond the reach of surgery and radiation, such as disseminated cancer and the various malignant diseases of the blood. Behind the effort to find such drugs is the assumption that there are basic biochemical differences between normal and cancer cells. If such distinctions exist, they can be discovered and scientifically characterized. Once this is accomplished, it should be possible to design chemical agents that will selectively destroy abnormal cells without affecting healthy tissue. Such agents would be ideal anticancer drugs, and their use might herald the virtual end of the problem of cancer as we know it today.

National Cancer Chemotherapy Program

Research since World War II has yielded some 20 drugs that provide temporary results in patients with certain forms of cancer. The search for anticancer drugs and more effective ways of using them has grown to nationwide, even worldwide, scope. The talents, facilities, and resources of the Federal government, American private industry, colleges and universities, and independent research centers are united in a national, cooperative

*Presented at a luncheon meeting of the Drug, Chemical and Allied Trades Association, Waldorf-Astoria Hotel, New York City, Nov. 30, 1959.

**Dr. Heller is Director of the National Cancer Institute, National Institutes of Health, Public Health Service, Department of Health, Education, and Welfare.

program of cancer chemotherapy research. This huge enterprise is being directed and coordinated by the Cancer Chemotherapy National Service Center at the National Cancer Institute in Bethesda, Maryland.

Essentially, the national chemotherapy program consists of the acquisition and testing of thousands of chemicals. Each year some 50,000 different chemical compounds, hormonal materials, and antibiotic products are studied to determine what effect they have against cancer in mice. A small fraction of these drugs are of sufficient interest to warrant further studies in animals to determine the precise degree of anticancer activity they possess, how they attack malignant cells, and whether they can be given with safety to human beings. Only about one in a thousand that enters the initial phase of the screening program is finally tested in cancer patients.

At present, more than 100 drugs are being evaluated in about 150 cooperating hospitals across the country. About 20 drugs, in standard use for the temporary control of malignant disease, are used as reference compounds against which newer agents are compared.

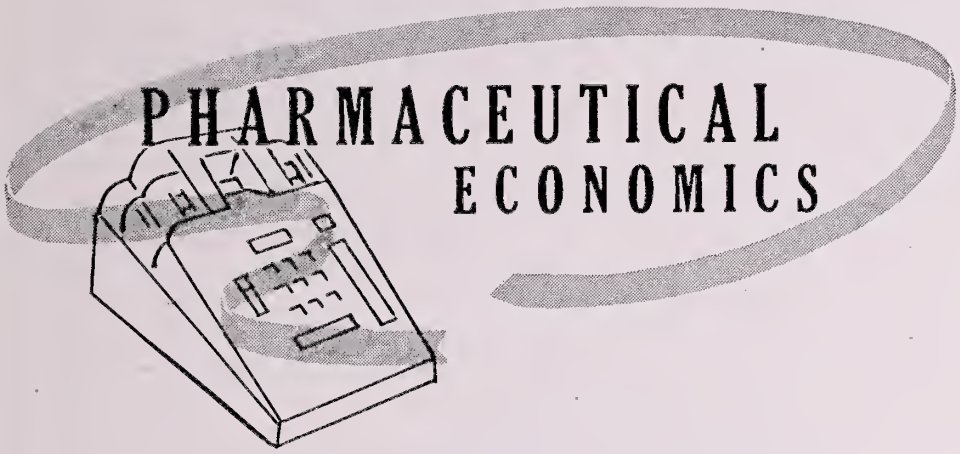
When the Service Center launched its testing program almost five years ago, nearly all of the compounds being screened were selected on an empirical basis. They were submitted by research centers, colleges and universities, and the pharmaceutical industry from their stocks of discarded materials. As the chemotherapy program developed, its mode of operation shifted to a more national foundation. Grants and contracts were awarded for chemotherapy research and development. A steadily increasing number of skilled scientists began to participate in the program, in many cases continuing in research paths they had already been pursuing independently. The net result has been a tremendous surge of activity in this field, a volume and quality of investigation that was undreamed of only a few years ago.

A number of benefits have already resulted from operation of this program. There are today more scientists and clinicians, better and more adequate facilities, and greater supplies of experimental animals than have ever before been available. Furthermore, data on results of drug trials are being accumulated more quickly than would have been possible in the absence of this program. Uniform application of statistical methods for the planning of drug evaluations and the interpretation of findings has resulted in a more scientific basis for gathering data. The program has stimulated the synthesis of thousands of new chemicals in quantities that would not otherwise have been possible.

Government-Industry Relations

The pharmaceutical and chemical industries have contributed greatly to the development of the national chemotherapy effort. In fact, without their help the program as it is operating today would have been completely impossible. Not only have these firms supplied compounds to the program, often free of charge, but they have synthesized a number of materials that might otherwise have been unobtainable. In many cases they are active in the screening operation itself, often conducting independent tests of their own. This voluntary, cooperative program certainly represents a unique and highly satisfactory relationship between the Federal government and private organizations.

If cancer chemotherapy research reaches its ultimate objective, it will provide drugs that will cure cancer either alone or in combination with surgery or radiation. No one can predict when this goal will be achieved. In fact, it seems likely that the achievement will be gradual, and that no one agent to cure all forms of cancer will be found. Physicians will probably be armed with a number of drugs, each of which will be active against a specific form of cancer. Progress will necessarily be slow. It has taken us 75 years since the time of Ehrlich, who coined the word "chemotherapy," to achieve the success we have today in the chemotherapy of infectious diseases. At any rate, I am sure that many of us today, and certainly our children, will someday be the beneficiaries of this coordinated attack on one of the most difficult and frustrating, yet one of the most important, medical problems of our time.



CONQUEST AT BARGAIN PRICES*

by
Andrew Mashberg**
New York, New York

What percentage of your patients complain to you that the price of medicine is too high? If it's about four out of every ten you're right at the national average.

But, before you decide to agree with these patients, it might be a good idea to take a good long look at the prescription prices to determine why they cost what they do, and whether they really are too expensive.

According to one publication, the average prescription in 1958 cost $3.08. But, of course, this doesn't really tell the story of prescription prices. This same prescription . . . or one costing $5 or $10 . . . often helps physicians cure an illness that twenty or thirty years ago would have cost $500 or $1,000. Maybe it was responsible for the patient's survival.

The story of pneumonia is a good case in point. Thirty years ago, according to a survey conducted in Philadelphia, a case of lobar pneumonia meant five weeks in the hospital, out-of-pocket costs of at least $400, plus lost earnings during hospitalization and convalescense. Total costs: About $1,000. And one out of every three patients died. Today the average case of lobar pneumonia lasts less than two weeks, does not usually require hospitalization, and only one out of 26 victims dies. Total cost: About $15 for penicillin or $30 for one of the broad spectrum antibiotics, plus the physician's fee.

Mastoiditis is another good example. In 1940, Children's Hospital in Boston reported 305 cases of mastoid abscess. For most of these stricken youngsters, little more than palliative treatment could be administered to ease the agony while they were waiting for a difficult and painful operation which cost up to $1,000, and often meant partial loss of hearing. Today many younger doctors have never seen a mastoid abscess. The "expensive" antibiotics permit physicians to control the infection for a cost of $15 to $20, and eliminate the need for surgery.

Not only has the cost of illness dropped since the introduction of the modern drugs, but our people spend little more of their disposable income today for medicines than they did twenty or even thirty years ago. In 1929, Americans spent an average of .73

*Republished through the courtesy of the Memphis Medical Journal and the Health News Institute.

**Member of the staff, Health News Institute.

per cent of after-tax income on drugs and sundries. In 1957, that figure had increased to only one per cent despite an increase in the average price of prescriptions from 85 cents in 1929 to $2.90 in 1957.

Nor has the cost of prescriptions during the postwar inflationary spiral taken as heavy a bite from the American paycheck as many other necessities. Bureau of Labor statistics indicate that medicine costs have risen by only 26 per cent since 1946, compared with 41 per cent for food, 45 per cent for rent and 39 per cent for the cost of living index in general.

The clearest indication of the relative decrease in prescription prices can be determined from an examination of the so-called "real price" of prescriptions. That is, the amount of time that the average American has to work to pay for his average-priced prescription.

In 1929, as we have noted, the average price for a prescription was 85 cents. To pay for this, it took one hour and thirty-one minutes of working time at prevailing wages. In 1958, despite the fact that the average prescription cost $3.08, it took only one hour and 26 minutes of working time to pay for it.

One of the main reasons for the increases in prescription costs is the steadily rising percentage of sales devoted to research. Out of every dollar received by pharmaceutical manufacturers from sales of medicine in 1958, more than nine cents was plowed back into research and development of new drugs. In 1958, alone, the pharmaceutical industry invested more than $170,000,000 in research. This represents an increase of 50 per cent over the $110,000,000 spent on research only two years earlier, in 1956.

One drug corporation executive estimates that "about three years of intensive investigation usually is required before a drug can be judged effective and released for public usage. Furthermore, only one new compound in 500 to 1,000 ever reaches the drug store . . . odds which no professional gambler would take."

More than 8,000 different compounds were screened by one company in the search for isoniazid. Another company studied 34,000 potential antibiotics and 8,000 chemicals in the search for better healing agents. Of the 42,000 products studied, just six were considered worthy of clinical testing.

And, not all of the products which prove clinically valuable turn out to be commercial successes. The story of the multi-million dollar search for pneumonia vaccine which panned out just as the sulfa drugs came along is one example. Another is the story of the synthesis of cortisone from ox bile, which cost millions of dollars to accomplish and which was on the market for only six months before a cheaper process of synthesizing the steroid was discovered by a competitor.

Both the successes and failures of research have contributed to the increased price of new medicines. But, both the successes and failures of research have also contributed to the better health and well being of Americans.

In balance, the cost of medicines must be weighed against our increasing life expectancy; the virtual disappearance of childhood diseases; the plummeting death rate from influenza, pneumonia and tuberculosis; and the future hope for relief from today's great killers, cancer and heart disease.

PHARMACY STUDENTS AWARDED HONORS

Edward Mahlum, junior pharmacy student from Mondovi, Wisc., was initiated into the Rho Chi Honorary Pharmaceutical Society recently. Ceremonies were held on the South Dakota State College campus. Eligibility for Rho Chi is based on high scholarship and outstanding professional capability. A student must have a minimum grade-point average of 3.0 (B) and be recognized by the faculty as an individual of outstanding professional ability.

Present student members of Rho Chi include Rodney Nickander, Madison, Minn., President; Robert Rotschafer, Worthington, Minn., Vice President; Beverly Smail Allen, Worthington, Minn., Secretary-Treasurer; and Terrie Teuber, Redfield, Historian.

Rodney Nickander, senior pharmacy student from Madison, Minn., was among fifteen students initiated into Phi Kappa Phi, honorary scholastic society recently. Ceremonies were held in November at South Dakota State College.

PRESIDENT'S PAGE



Fellow Pharmacists:

January—The time of the year when we should balance the achievements and failures of the past with our needs and wishes for the future and come up with a realistic goal for the year. Worthwhile goals are never easy to attain and so ours for Pharmacy must not be easy.

Your continued backing must be had in support of Fair Trade. We must continue our program of restriction of sale of drugs to pharmacies. We must work toward full cooperation and understanding between pharmacists, doctors and veterinarians. We must give full support to our Division of Pharmacy in its change of curriculum to a five-year course. These are only a few; there are others just as important.

Needs and wishes are born from ideas. Achievements are attained by constant and continuing effort. Failures are aided by lack of interest. If you have ideas or suggestions, voice them now; it could be an idea worthy of consideration by the entire state at our next convention. Don't let your lack of interest interfere with progress.

Willis Hodson



DRUG PRICE INVESTIGATIONS

As this is being written, the Senate Antitrust and Monopoly Subcommittee is preparing an inquiry into charges that prescription medicines are over-priced. Public hearings started December 7 and will continue at various times through next June. The Committee under Chairman Estes Kefauver (D-Tenn.) expects to hear testimony from doctors, pharmacists, wholesalers, manufacturers, and officials of the Food and Drug Administration and National Institute of Health. At present, there are no plans to investigate retail drug prices.

Congressional Committee investigations have a definite place in our democratic form of government. It is necessary for Congress to be informed so that legislative action can be intelligently derived. We do not quarrel with the right of this committee to investigate the possibility of monopolistic practices in drug pricing. However, past experience has shown that at times the tremendous publicity given to hearings of this type can result in public impressions that are not necessarily based on fact or truth. For example, the mere fact that this investigation is taking place will indicate to large numbers of people that drug prices must be too high. The impression may be created and the "defendant guilty" without a word of testimony offered on either side.

Another example of this type was the recent government prosecution of five drug companies allegedly consorting to price-fixing of polio vaccine. Definitely this was newsworthy and people heard about it. There was not much said, however, when the government's case was dropped for lack of evidence. It is just this type of thing that bothers us; the charges are well-known and usually sensational, but the rebuttal is unknown and unnewsworthy.

The committee will not go into retail price structure, according to Senator Kefauver. However, the public is not concerned with wholesale prices or manufacturers prices, etc. They are interested in what they pay the pharmacist for medication and complaints tend to be made directly to the pharmacist. With this in mind we feel that it is the professional responsibility of each pharmacist to be aware of the need to present the facts of prescription pricing to the public at "the grass roots" level. This is public relation work of the best type and can go far toward correcting any misconceptions that might occur during this investigation.

Elsewhere in this issue is an article that presents the subject of drug prices so clearly

that we feel the material could well be the basis of this public relations effort.

PHARMACEUTICAL INDUSTRY LEADS IN BASIC RESEARCH

It's no news to most Americans that intensive medical and pharmaceutical research is behind a great majority of the new drugs used so successfully today to combat such one-time killers as tuberculosis, pneumonia, influenza and many other diseases.

The greater part of the research involves the development of new medicines or of new production methods to lower the costs of medicines and thus bring them to more people.

But there is another kind of research which is equally important to the pharmaceutical industry, the Health News Institute points out. This is basic research.

Basic research brings in no dollar profits; devises no saleable products; creates no new production shortcuts.

Yet, according to a study conducted by **Science,** American industry in 1953 spent more than $150,000,000 and utilized the talents of almost 6,000 scientists in what the National Science Foundation has defined as "projects which are not identified with specific product or process applications, but rather have the primary objective of adding to the overall scientific knowledge . . ."

To conduct its share of basic research, the pharmaceutical industry employed more than 850 scientists in 1953. These researchers published more than 600 papers on their work . . . approximately 20 per cent of all basic research studies published in that year.

In 1953, basic research cost the pharmaceutical industry more than $16,000,000. This came to more than ten per cent of all the money spent by private industry on basic research, and from 20 to 25 per cent of the pharmaceutical industry total research budget. In comparison, all American industry during that year spent an average of about four per cent of the total research budget on basic research.

The 26 largest pharmaceutical manufacturers alone spent almost $11,000,000 on basic research in 1953. In comparison, the 115 largest petroleum companies spent $10,000,000 on basic research; the 109 largest chemical companies spent $18 million on basic research, and the 186 largest manufacturers of electrical equipment also spent $18,000,000 on basic research.

The pharmaceutical manufacturing industry employed more basic researchers per 1,000 employees . . . 4.5 . . . than any other industry. The chemical industry employs 1.27 basic researchers per 1,000 employees and the electrical equipment industry only .43 per 1,000 employees.

This trend in expenditures on basic research has been maintained, and in some cases, accelerated by the pharmaceutical industry since 1953.

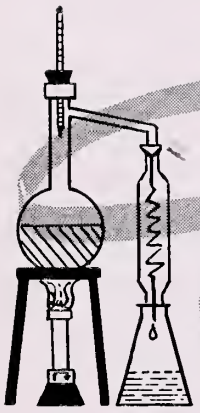
In 1958, more than $35,000,000 was spent on basic research by the pharmaceutical industry; this amounted to 20% of the $177,000,000 spent by the pharmaceutical industry for all research and development during the year. Seven pharmaceutical companies alone report their total expenditures for basic research at more than $16,000,000.

Why this emphasis on basic research in the pharmaceutical industry? The answer is simple. The reason why "grass is green," or what makes "french fried potatoes brown" may be of no interest to some. But to the pharmaceutical industry, the answers to these and other seemingly meaningless questions may mean life to a child dying of leukemia; new hope to a young mother confined to a wheel chair by multiple sclerosis; a normal life for a schizophrenic in a mental hospital, or recovery for a young father stricken by heart disease.

THE MONTH IN WASHINGTON

A spokesman for the American Medical Association told the Federal Communications Commission that the AMA believes the best solution to objectionable advertising and programs on television and radio is for the industry "to clean its own house."

Dr. Eugene F. Hoffman, co-chairman of the AMA's Physician's Advisory Committee on Television, Radio and Motion Pictures, declared "the medical profession . . stands ready to assist the networks and individual stations in determining accuracy and good taste of broadcast material involving health or medicine — either commercial or public service."



Advances In Drug Research

CONFERENCE ON NON-NARCOTIC ANALGESICS

Scientists from twenty-nine medical colleges, industrial, hospital and other laboratories in this country, Great Britain, Italy and Switzerland presented papers at a two-day conference on non-narcotic analgesics recently.

The conference was held under the auspices of the New York Academy of Science December 4 and 5, 1959. Abstracts on some of the papers presented follow:

Horse-and-Buggy Research Holds Back Discovery of Anti-Pain Drugs

Horse-and-buggy research techniques are holding back the search for more effective drugs to relieve pain, Doctor Frank M. Berger, the discoverer of Miltown, told a group of scientists recently at the opening of a two-day conference on non-narcotic analgesics.

"The most important drugs in this field, such as morphine, phenacetin, and aspirin," Doctor Berger said, "were introduced before the beginning of this century."

Doctor Berger attributed the failure of science to make headway in the development of drugs for the control of pain to over-reliance on the use of animals and on experimentally induced pain to measure effectiveness of a pain-relieving drug.

"Experienced observers believe that in man the experimental pain techniques at present employed are probably useless for the appraisal of analgesic agents," he said. Only actual, pathologic pain is likely to produce results that can be trusted, Doctor Berger suggested. Doctor Berger called for the development of new techniques for testing the value of pain relieving compounds.

"Most patients who come to see a doctor complain of pain and demand relief of pain," Doctor Berger pointed out. "Many kinds of pain cannot be satisfactorily relieved at the present time, and the available remedies cannot be used to advantage because their mode of action is not fully known."

This lack of understanding, he said, justified the conference which was held under the auspices of the New York Academy of Science at the French Institute in New York City. Scientists from twenty-nine medical colleges, industrial, hospital and other laboratories in this country, Great Britain, Italy and Switzerland presented papers at the meetings of the conference.

Doctor Chauncey D. Leake of Ohio State University and president-elect of the American Association for the Advancement of Science (AAAS) who acted as chairman of the opening session, undertook a definition of pain.

In vertebrate animals, Doctor Leake said, pain can be shown to be a disturbance in the brain — "localized in the brainstem in a totally different area from the area associated with a pleasurable response."

From the beginning, Doctor Leake emphasized, man has sought to treat pain by the use of drugs which dulled or blocked the brain's perception of pain. Among those he listed as dating from ancient (mideastern) medical lore are "the lotus, lettuce, mandrake, poppy, dock, the henbane, hemlock, hellebore and hemp, verbena, primrose, myrrh and frankincense, the deadly nightshade, garlic, bhang, datura, mulberry and rue — and half around the world . . . men learned also — kava, mescal, coca, and tobacco . . . ."

Emotions and Drugs Both Important In Treating and Preventing Headache

Percentage figures for relief of headache, or for the prevention of headache, with one drug or another can be deceptive and unreliable, for the reason that a headache is merely a symptom — and one which is susceptible to psychological amelioration.

This is the firm conviction of Doctor Arnold P. Friedman, neurologist and psychiatrist, internationally known as director of the Montefiore Hospital Headache Clinic and a faculty member of the College of Physicians and Surgeons, Columbia University. Doctor Friedman reported on researches involving 5,000 headache patients.

Doctor Friedman's conviction that the personality of the patient and the doctor-patient relationship are more important than drugs is based on fifteen years research on chemicals used to relieve or prevent headache.

In this research, he has discovered that placebos, "dummy pills" with no therapeutic activity, may relieve or prevent headaches in sixty per cent of a group of patients.

In the paper he read, placebo effectiveness varied between forty and fifty per cent and some of the drugs scored scarcely higher — emphasizing, he said, the deceptiveness of percentage figures.

Though he sets great store in good patient-doctor relations and in education of the patient to understand himself (most often herself), Doctor Friedman is convinced by his researches that various chemicals are important adjuncts both in the relief of headache pain and in warding off attacks.

The new drugs, he pointed out, are seldom analgesics but are more likely to be sedatives, tranquilizers, decongestants, and blood-vessel constricting agents. Two new ones which he reported on in his paper are an analgesic-muscle relaxant, carisoprodol (Soma) for use in tension headache, and a still unnamed drug, chemically methyl-lysergic acid butanolamide, which is a serotonin antagonist. (Serotonin is a monoamine, a preprotein substance, which is present in the brain.)

This experimental drug has been used in an effort to prevent recurrence of migraine headaches in a selected group of forty patients who had not responded satisfactorily to medical or psychiatric treatment and whose symptoms were "severe and tenacious."

This test, Doctor Friedman said, roused sufficient hope of discovery of a preventive that another drug known to inhibit the enzyme which destroys serotonin, and which is now employed for treatment of the mentally depressed, is also now under study. This drug, phenelzine (Nardil) has in certain instances, Doctor Friedman reported, proved "surprisingly effective."

The tension headache research in which the other new drug, Soma, was employed was also a test of ability to ward off attacks. It was the most successful of four drugs tested, Doctor Friedman said.

Insofar as headache drugs in general are concerned, however, Doctor Friedman pointed out, combinations seem to be more effective than single drugs. As an example, he cited a combination of an antihistaminic, an analgesic, a tranquilizer, and a vasoconstrictor as a remedy for headache associated with vasomotor rhinitis.

New Test Uses Ultra-Sound to Measure Pain Relief Drugs

A new test which, for the first time, allows researchers to compare the value of drugs in relieving bone and muscle pain in humans was reported by a psychologist from the University of Washington, Seattle, at the conference on nonnarcotic drugs for the relief of pain.

Doctor Audrey R. Holliday told the conference that she had used a beam of very high frequency, nonaudible sound waves to discover pain-relieving differences between

codeine, a narcotic drug, and aspirin, and the analgesic muscle relaxant, carisoprodol (Soma).

Doctor Holliday, in a carefully controlled study using volunteer pharmacology students as subjects, was able to rate aspirin and placebo ("dummy pills") as having no effect in raising the "deep pain threshold." Codeine raised it markedly and Soma increased it to a somewhat lesser extent.

The subjects, who came in for weekly tests, swallowed pills of whose contents they were unaware and submitted a hand to the ultrasound machine. They were asked to pull the hand away at the precise moment when they felt a twinge of pain. A timing device measused the difference in interval between the moment of exposure to the ultra sound waves and the time of withdrawal.

Fourteen students were chosen to learn to discriminate the first painful sensation (threshold) but, before the study actually began, two became frightened of the ultrasound machine and another two had slight irregularities in their hands which would have deranged the results.

Doctor Holliday said that the new test offers opportunities for great refinement of pain testing. For instance, she said, by reducing the sound wave intensity below that used in the test, she may be able to make even finer discriminations between the effects of various drugs on the pain threshold.

The pain produced by ultrasonic waves is presumably caused by vibration of the bone or increased temperature which is transmitted to the tissues around the bone. Some tissue damage is created by the waves, but careful testing on animals and on the researchers themselves showed that no lasting damage is inflicted. The study was supported by the National Institute of Mental Health, U. S. Public Health Service, and by Wallace Laboratories, discoverers of Soma.

Discoverer Reports on Characteristics of New Analgesic-Muscle Relaxant Drug

A progress report on research designed to learn the distinctive characteristics of the analgesic-muscle relaxant drug, carisoprodol, was made to a conference of the New York Academy of Sciences by Doctor Frank M. Berger who discovered the drug.

Doctor Berger, who also earlier discovered meprobamate (Miltown), is vice-president of Wallace Laboratories, New Brunswick, N. J. Both of Doctor Berger's "inventions" were accomplished by manipulating a basic chemical molecule. Soma, the analgesic differs from Miltown, a tranquilizer, only in having an isopropyl group in place of a hydrogen atom, Doctor Berger said.

His report today pointed out that animal experimentation (which is continuing although the drug is now in use in humans), shows "pronounced and unexpected dissimilarities" between the two drugs.

For example, brain-wave recordings show that spontaneous activity of the upper brain layer (spontaneous cortical activity) is not affected by meprobamate but is depressed by carisoprodol, as is sensory stimulation of the brain. On the other hand, meprobamate does depress — and carisoprodol has no effect on — that portion of the brain called the rhinencephalon which is involved in emotional changes.

The electroencephalograms, Doctor Berger said, actually showed the new drug in small doses produces results much more comparable to atropine (a belladona-like substance) and the barbiturates, both of which are narcotics. All three slowed down brain wave patterns without affecting behavior, but the similarities did not persist when large doses were given.

"Animals receiving carisoprodol or atropine in doses sufficient to block activation of the electroencephalogram still respond to sensory stimulation and remain alert," Doctor Berger wrote. "On the other hand, animals receiving barbiturates or other sedatives and hypnotics in doses sufficient to obliterate activation of brain wave patterns, appear drowsy and show decreased reactivity to sensory stimuli."

New 3¾% interest on U.S. Savings Bonds

The Treasury explains why the new ones you buy and the ones you own now are better than ever

Q: How does the new 3¾% interest rate benefit me?

A: With Series E Bonds, this rate turns $18.75 into $25.00 fourteen months faster than before. Your savings increase faster, because your Bonds mature in 7 years, 9 months.

With Series H Bonds, the 10-year maturity period stays the same but more interest is paid you each six months. With both E and H Bonds the new rate works out to 2½% for the first year and a half; then a guaranteed 4% each year to maturity.

Q: When did new rate go into effect?

A: June 1, 1959.

Q: Does the new rate change the Bonds I bought before June 1, 1959?

A: All older E and H Bonds pay more now—an extra ½% from now on, when held to maturity. The increase takes effect in the first full interest period after June 1.

Q: When my E Bonds mature, will they keep on earning interest?

A: Yes. An automatic 10-year extension privilege went into effect along with the new interest rate. This means your E Bonds will automatically keep earning interest after maturity.

Q: With the new interest rate, should I cash my old Bonds to buy new ones?

A: No. The automatic ½% increase makes it unnecessary—and in almost every case it is to your advantage to retain your present Bonds.

Q: How safe are U.S. Savings Bonds?

A: Savings Bonds are an absolutely riskless way to save. The United States Government guarantees the cash value of your Bonds will not drop, that it can only grow.

Q: What if my Bonds should be lost, stolen or destroyed?

A: If anything happens to your Bonds they are replaced—free.

YOU SAVE MORE THAN MONEY WITH

U.S. SAVINGS BONDS

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Rx PHARMACY News

DENVER PLANS FOR 1960 N.A.R.D. CONVENTION

The Executive Committee of the N.A.R.D. while in session in Chicago, November 17, 18 and 19, approved various contract matters that pertain to the convention of the N.A.R.D. to be held in Denver, Colo., October 23 through 27, 1960.

Bert Corgan, Denver member of the Executive Committee of the N.A.R.D., reported that everyone identified with the drug industry of Colorado is enthusiastic over the opportunity to be the host of the 1960 convention of the N.A.R.D. He said that the plans for the entertainment will include enjoyable features derived from the life of the pioneer West.

The Denver hotel facilities are excellent and adequate enough to provide a variety of accommodations.

The city is easy to reach by railroad and airline transportation.

It is likely that the 1961 N.A.R.D. convention will be held in Miami Beach, Fla., and in 1962 the locale may be Cleveland, Ohio. To procure accommodations for a sizable convention, it is necessary to make arrangements three years ahead.

HISTORICAL DISPLAY UNIT ISSUED

The American Institute of the History of Pharmacy announces completion of a new type of historical project, a window display unit designed for maximum flexibility and for exhibit under a variety of circumstances. Collaborators on the project were George B. Griffenhagen of Washington, D. C., and the Smithsonian Institution.

The unit consists of ten display cards, 9 by 12 inches, and a five-page illustrated brochure full of suggestions and ideas for making most effective use of the material. Non-members may obtain the display for $3 postpaid. New members of the Institute ($5 dues) may receive the display unit as one of the initial membership benefits.

The ten cards, on one side, carry out the theme of the evolution of drug containers. The reverse side of the cards provides a second display on the theme of the history of equipment commonly used by the pharmacist. Either antique or modern pieces of equipment may be selected to exhibit with the cards.

Early reactions confirm that the display unit provides the basis for an unusually effective professional exhibit, completely adaptable to space requirements, and suitable for the pharmacy, hospital, school, or any public exhibition space, according to Dr. Glenn Sonnedecker, Institute Director. Inquiries about the display should be addressed to the A.I.H.P. office, 356 Chemistry Building, Madison 6, Wisconsin.



The South Dakota Heart Association, Research Program

William F. Geber, Ph.D., Assoc. Prof.
Dept. of Physiology and Pharmacology
Medical School, Vermillion, S. D.

The current emphasis of the research being conducted by the author is the peripheral vascular system, its physiological and pathological reactions. Specific problems being investigated all revolve around the measurement of the relationship of blood flow to blood pressure whether it be in the entire systemic vascular system or in more limited areas as the kidney, liver, spleen, muscle, intestine, or heart.

It is possible with presently available methods to quantiatively measure blood flow and pressure in most areas of the vascular system. However, when it becomes desirable to know the distribution of blood within a given area or organ, the problem becomes much more complex and qualitative. What is ultimately desired is a continuous, quantitative indication of the blood flow at the capillary level. So far, our present day instrumentation is not capable of producing such data. Also desirable is the determination of oxygen utilization at the cellular level in a continuous and quantitative manner. If we could then couple the two vital pieces of information, one step more would be made in determining whether or not an initial change in blood supply to an area produced or influenced a particular pathological change, or if the pathological change was strictly induced at the cellular level and any change in blood

supply that may have occurred was of a secondary nature.

This type of chicken and egg relationship is illustrated in the hypertension syndrome where no apparent primary renal etiological factor can be demonstrated. Also apparently there are many different factors that can potentially contribute to the abnormal elevation of the blood pressure. Which one is actually involved is often difficult or impossible to determine. If several are involved their relation to one another and the relative percentage contribution to the final degree of physiological imbalance is even more difficult to assess.

A "reasonable" theoretical outline of the sequence of events that leads to the development of the "essential" type of hypertension is one that postulates the primary involvement of the autonomic nervous system. Essential to this theory is a genetically sensitive vasculature which would respond excessively to any of the usual life stresses. Thus for a given stress this particular vascular system would constrict to a greater degree and for a longer time. After a given number of years this would lead to the development of renal metabolism imbalance. The kidney then would slowly start to elaborate its own protective hormones to insure its own blood supply in the face of the continual constrictive restriction of the blood flow through its own vasculature. Thus a cycle would be established after some time and any attempt to break into it could lead to either disappointing or fatal results.

The problem then is one of determining what are the stresses that can activate the autonomic nervous system and thus the vasculature in general, and to determine if the renal vasculature responds in the same manner or in an independent and a typical pattern. Much work has been done on stress evaluation and the many different types of stress well defined. The more difficult aspect of the problem is to quantitate the response of the vasculature, especially that of the kidney. The use of the conscious human or animal poses the problem of level of responsiveness due solely to the fact that they are conscious. It is of course well known that humans and animals have varying degrees of reaction to any given stimuli or stress. If the anesthetized subject is used this factor can be eliminated but in its place must be substituted the factor of the effect of the anesthetic agent used.

One of the research projects being conducted under the auspices of the South Dakota Heart Association is the evaluation of the contribution of the autonomic nervous system to the regulation of the renal blood flow. Also the influence of the central nervous system in conjunction with the autonomic nervous system when the subject is exposed to various stimuli e.g. light, sound, pain, etc. All experimental work is carried out on the anesthetized animal so that the previously outlined pros and cons are present in all results obtained. Data obtained so far show that a wide spectrum of stimuli all result in a decrease in renal blood flow. Blood pressure may or may not be affected according to the type and intensity of the stimulus indicating the danger of emphasis on blood pressure as an indication of response to any stimulus. When there is a simultaneous change in blood pressure and blood flow, the change in blood flow invariably outlasts the change in blood pressure usually by a factor of ten, although frequently as much as fifty. It would thus seem tempting to suggest that the same stimuli in the conscious animal would be even more effective in reducing renal blood flow. In conscious man, the continual bombardment of his senses with all the stimuli of everyday living could easily be envisioned as causing the renal blood flow to be altered in such a manner as to adversely affect kidney metabolism with resultant release of increasingly greater amounts of protective hormone and so start the cycle going until the establishment of the hypertensive state is permanently set.

In the course of investigation of the renal blood flow, attempts have been made to measure intra renal blood distribution. Data obtained so far indicate the existance of alternate vascular pathways within the kidney, namely the cortical, juxtamedullary, and medullary systems. An interesting fact is that all kidneys do not respond in the same manner to a given stimulus or drug. Some kidneys do not appear to have the ability to utilize the alternate pathways for blood flow under any conditions. The significance of this is unknown. It might be postulated that

(Continued on Page 71)



THE FEASIBILITY OF LONG TERM ANTICOAGULANT THERAPY

Theodore Wrage, M.D., Watertown, S. D.*
Robert F. Thompson, M.D., and
T. H. Sattler, M.D., FACP, Yankton Clinic
Yankton, South Dakota

The specific indications for and benefits of anticoagulant therapy are now generally accepted. Some physicians, however, question the feasibility of long term anticoagulant therapy. The reports noted in the references and their comprehensive coverage of the literature establishes anticoagulation (specifically, plasma prothrombin concentration depression) as effective and safe when properly controlled. These references are recommended to the reader.

The hundreds of patient-years of continuous anticoagulant therapy recorded indicates feasibility when certain principles are followed:

1. The therapist must be experienced and thoroughly familiar with the particular anticoagulant selected.
2. A dependable laboratory and laboratory method of assessing control must be readily available.
3. The patient must be reliable, fully informed of the necessity of his cooperation, cooperative and aware of the risks of his disease and of the therapy.

Evaluation

To evaluate the practicality of long term outpatient anticoagulant therapy in thrombo-

* Resident, Internal Medicine, Yankton Clinic and Sacred Heart Hospital, Yankton, South Dakota, 1956 to 1957.

embolic disease in our community, we reviewed the records of those patients supervised through the Yankton Clinic. All of the patients we personally followed throughout therapy.

The anticoagulant of our choice was warfarin sodium (Coumadin = Endo Products Inc., or Prothromadin = G. F. Harvey Company) or dicumarol (bishydroxycoumarin). Both of these drugs depress prothrombin concentration and activity in the plasma as measured by the Quick "one-stage" prothrombin time.[1] It is recognized that the same drugs do affect other factors in blood coagulation, specifically the so-called stable factor, to different degrees in different patients. For practical therapy most authors consider the "one-stage" prothrombin time (activity) determination an adequate indication of drug-effect.

After stabilization of drug dosage, the prothrombin determinations were often done at four week intervals. The desired range of prothrombin activity was 15 to 30% of normal by the method described. Others mention a range of 10 to 40% as the goal with 20 to 30% preferred. Evidence indicates a very low incidence of bleeding phenomenon from therapy with a prothrombin concentration (activity) above 10% and a lowered incidence of thrombo-embolic complications with a prothrombin concentration under 30% (although some authors state 40%).

Results

126 patients comprise a group in which "long term" (more than 30 days) outpatient anticoagulant therapy was attempted. One patient has been on dicumarol for 1959 days continuously; 125 patients have been on therapy for 27,742 days. Total therapy extends over 29,701 days or 81.372 patient-years.

Sex: Men — 81 Women — 45

Age:

Under 20 = 0	51 — 60 = 20
21 — 30 = 2	61 — 70 = 47
31 — 40 = 3	71 — 80 = 41
41 — 50 = 8	81 — 90 = 5

Duration of therapy (days):

Group A: more than 1000	— 4 patients
Group B: 300 to 999	— 37 patients
Group C: 100 to 299	— 28 patients
Group D: Less than 99	— 57 patients

[1]The "one-stage" method of Quick using Simplastin (Warner-Chilcott) as thromboplastin source.

Diagnosis:	Group A	B	C	D	Total
Mitral stenosis, auricular fibrillation, heart failure (arterial emboli)	1	—	—	—	1
(no emboli)	—	—	—	1	1
Myocardial infarction	1	18	12	13	44
Cerebral arterial occlusion (thrombosis)	2	7	10	13	32
Coronary atherosclerosis with insufficiency	—	7	2	3	12
Heart-block, atherosclerotic heart disease	—	1	—	—	1
Thrombophlebitis (phlebothrombosis)	—	1	2	16	19
Pulmonary embolus	—	—	2	9	11
Retinal vein thrombosis	—	2	—	2	4
Retinal artery thrombosis	—	1	—	—	1

Stability of prothrombin concentration during therapy:

Group	Prothrombin activity %				
	Under 10%	Under 20%	Under 30%	Under 40%	100%
A	1.4*	7.1	48	82	0.7
B	0.54	13.2	52	80	1.95
C	0.6	8.3	36	60	4.1
D	1.0	10.5	43.5	72.5	4.5

There were 1516 prothrombin determinations for 126 patients over 81.372 patient-years, 18.7 prothrombin determinations per year per patient (average) with an average of a prothrombin determination every 2.7 weeks per patient. There was better control of all patients if the interval between prothrombin determinations did not exceed 4 weeks after the patient was stabilized.

Occasional cooperative patients developed marked depression in prothrombin activity or escape from control desired without relation to age, sex, activity, season of the year. Patients required less anticoagulant if renal failure, congestive heart failure, liver disease, or poor nutrition intervened during therapy. Salicylates and alcohol ingestion also had a definite depressive action on prothrombin concentration.

Reason for stopping anticoagulant therapy:

A. Sufficient therapy:	Group A	B	C	D
Thrombophlebitis				
(phlebothrombosis	—	—	1	13
Pulmonary embolus	—	—	—	8

The determination of sufficient therapy was arbitrary and was related to physical findings and doctor-patient enthusiasm for continuation of therapy.

* recorded as percentage of total prothrombin determinations for each group.

B. Complication:	Group A	B	C	D
Purpura	—	1	—	—
Patient moved away	—	2	—	2
Poor patient understanding, cooperation	—	4	5	13
Patient unable to continue for other reasons	—	—	1	1

Most instances of poor cooperation and understanding occurred when the symptoms of the primary disorder were minimal or the patient had one or more cerebral arterial occlusions with varying degrees of organic brain syndrome. In the latter instance the patient's family must be depended upon many times to carry on the therapy.

C. Patients died during therapy (autopsy in those marked (a)):	A	B	C	D
Cause of death				
Mycardial infarction	—	1	—	5
Cerebral hemorrhage	—	—	1(a)	1(a)
General hemorrhage, related to hypoprothrombinemia and congestive heart failure	—	—	—	1(a)
Cerebrovascular thrombosis (All had previous myocardial infarctions, coronary artery insufficiency or cerebrovascular thrombotic disease)				
During mitral valvulotomy due to cerebrovascular thrombosis	—	—	—	1(a)

Not all of the deaths occurred in the hospital and therefore autopsies were not done on all patients. Patients in group C and D stopped therapy:

	C	D
Sufficient therapy	1 (3.5%)	21 (38%)
Poor understanding, or cooperation	5 (17.8%)	13 (23%)
Patient died during therapy	1 (3.5%)	8 (14%)

Thus in group D (less than 100 days therapy as outpatients), 1/7 died during therapy, 1/4 discontinued therapy because of poor cooperation or understanding, 1/3 discontinued therapy because of sufficient therapy, and 1/4 are continuing satisfactory therapy to present date. Most of the deaths in the total review occurred before 100 days of outpatient therapy.

Continuing therapy to present date:

	Group A	B	C	D	Total
A. No complications:	2	20	17	12	42
B. Surgery — therapy temporarily stopped, resumed, continued					
Uterine D & C	—	1	—	—	1
Tooth extraction	—	5	1	—	6
Cataract removal	—	1	—	—	1
Femoral neck fracture	—	1	—	—	1
C. Complication, therapy revised and continued:					
Hematuria	—	2	—	—	2
Myocardial infarction	—	1	—	—	1
Moved away	—	2	—	—	2
Vacation trip	1	5	—	—	6
Pregnancy	1	—	—	—	1
Poor cooperation	—	1	1	—	2
Profuse menses	1	—	—	—	1
Cerebrovascular thrombosis	—	2	—	—	2
D. Total patients continuing therapy each group:	4	33	18	14	69

An occasional patient mistakenly took Vitamin K_1-oxide (Mephyton = Merck, Sharp & Dohme) instead of warfarin sodium despite printed instructions, warnings, and adequate labeling of medication container. Some patients had more than one complication develop during therapy.

Generally within one to three months the physician can decide which patients will cooperate with therapy and which can be controlled by therapy. From the data it appears relatively dangerous or useless to attempt therapy in a non-understanding non-cooperative patient.

Comments

Men predominated in the group, constituting 64% of the total. 89% of the patients were over the age of 50 years. Total therapy equaled 81.4 patient-years. Prothrombin determinations averaged 2.7 weeks between determinations. Most instances of variable prothrombin activity levels occurred in the early weeks of therapy. Generally, within one to three months the physician can decide which patients are reliable, cooperative, and can be stabilized on therapy. Complications attributable to anticoagulant therapy may have participated in three instances of fatal hemorrhage. Other complications were minimal and in only one instance was therapy permanently stopped.

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CHRONIC EMPHYSEMA IN FEMALE SIBLINGS

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The occurence of chronic hypertrophic pulmonary emphysema in women is infrequent. When the phenomenon is noted in female siblings, one realizes that a rarity exists. It is the purpose of this paper to present two cases which illustrate this situation and to comment briefly on the similarities and dissimilarities of the case reports and necropsy data. The cardiac sequelae will be emphasized.

Case Report I

Mrs. R. M., a Caucasian female, aged fifty-of bronchopneumonia which was superimposed upon a previously diagnosed moderately severe bilateral pulmonary emphysema with chronic cor pulmonale and recent intractable right heart failure. She had suffered with severe intermittent nonseasonal bronchial asthma for twenty-eight years. She was a moderately heavy cigarette smoker for many years. She had used the usual bronchial dilators with moderate success until her symptoms became more intractable during the twelve months prior to her death. Pulmonary function studies verified a diagnosis of pulmonary emphysema.

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Her last admission to the hospital was on November 23, 1956. She was febrile, markedly dyspneic at rest, and had orthopnea. There was evidence upon roentgenologic examination, of pneumonitis in the right lower lobe with underlying bilateral pulmonary emphysema. The cardiac silhouette showed an increase in size when compared with a chest x-ray read two months previously.

The hemogram was normal except for a leucocytosis of 15,300 with a mild Shilling left shift. The carbon dioxide combining power was twenty-one millimols per liter. Serum chlorides, sodium, and potassium were normal.

Despite vigorous therapy with antibiotics, intermittent oxygen inhalation, intermittent positive pressure therapy with bronchodilators and supportive measures, the patient became increasingly cyanotic, febrile, and hypotensive. She expired on November 30, 1956.

A necropsy was done. The pathologic diagnoses were reported as follows:

(1) Bronchopneumonia, primarily in the right lower lobe.
(2) Passive congestion of the spleen, liver, and viscera.
(3) Dilatation and hypertrophy of the right heart.
(4) Pulmonary emphysema with bullae formation.
(5) Chronic asthmatic bronchitis.

Case Report II

Mrs. J. M., a fifty-three year old white female, was admitted to the hospital on August 25, 1956, with chief complaints of dyspnea at rest, orthopnea, peripheral edema and right upper abdominal quadrant pain. A diagnosis had previously been made of pulmonary emphysema which had been present for approximately fifteen years and she had recently had pulmonary function tests which verified this diagnosis. She had been a nonseasonal bronchial asthmatic for thirty-two years, and was known to have had moderate essential hypertension for at least three years prior to her death. During a five year period previous to her admission to the hospital she noted increasing respiratory embarrassment. She had used tobacco in excess for many years. She gave a history of having had angina of effort for approximately one year.

Physical examination revealed an aged white female who was in obvious respiratory distress. There was marked pitting edema of both lower extremities. Auscultation of the lungs revealed diffuse subcrepitant rales in both posterior bases and diffuse rhonchi and sonorous rales were heard bilaterally. The heart was enlarged to percussion and the rate was increased without arrhythmia. The blood pressure was 170/110. Examination of the eyegrounds displayed group II hypertensive changes. The liver was enlarged to the level of the umbilicus.

The hemogram was normal except for a moderate hypochromic anemia. The urinalysis showed four plus albuminuria with occasional granular casts. Chemical analysis of the blood was normal except for hypoglobulinemia and hyperkalemia with moderate azotemia. There was slight hyponatremia and the carbon dioxide combining power was slightly elevated. Roentgraphic examination of the chest found the heart to be enlarged in its transverse diameter approximately thirty per cent above normal. There were prominent hilar markings suggestive of congestive changes, superimposed upon bilateral pulmonary emphysema.

Upon hospitalization full digitalization was accomplished and the patient was placed on a low sodium diet and coronary dilators. On the second day after admission, her urinary output diminished and increasing azotemia was noted. She became more edematous and her respiratory distress increased. Terminally her blood pressure dropped to hypotensive levels and she expired on the third hospital day.

Necropsy findings were as follows:

(1) Advanced coronary artery atherosclerosis.
(2) Infarction of the posterior papillary muscle of the myocardium.
(3) Bilateral pulmonary emphysema, advanced.
(4) Pulmonary and hepatic congestion and edema.
(5) Bronchopneumonia.

Discussion

Drew Miller of the Mayo Clinic has written a concise definition of emphysema. He states that it is characterized pathologically by large alveolar spaces with attenuated septa many of which are fragmented. As a result, blebs

or bullae are formed, thus altering the mechanical properties and ventilation of the lungs as well as decreasing the reserve capacity of the pulmonary circulatory system.

Pulmonary emphysema is considered a disease entity, and yet it is frequently found associated with or following such bronchopulmonary conditions as chronic bronchitis, longstanding intractable bronchial asthma, pulmonary tuberculosis, pneumoconiosis, (e.g. silicosis), bronchiectasis, and cystic disease involving other organs.

The basic defects in diffuse emphysema are in most instances, a combination of bronchiolar narrowing due to spasm, congestion or exudate, and of atrophy and dilatation with loss of pulmonary elasticity.

Gordon has stated that inasmuch as in emphysema a considerable proportion of the alveoli are damaged, one or both of two things must take place: (1) the thoracic cage must contract to reduce the space of the destroyed parts, or (2) the remaining distensible structures must expand to fill the space. The range of thoracic contraction is obviously limited, so compensation must be chiefly at the expense of the uninvolved alveoli.

Since the major symptoms and signs of emphysema center around the loss of alveolar elasticity, the respiratory and circulatory readjustments are an attempt to compensate for this loss.

Physiologically, we find a marked increase in residual air volume, and the vital capacity and the maximum breathing capacity are decreased. In advanced cases, the carbon dioxide tension is elevated and oxygen saturation is decreased.

Chronic cor pulmonale may ensue with right ventricular hypertrophy and cardiac failure. Because the alveolus has become an inefficient membrane for the interchange of oxygen and carbon dioxide, the blood becomes imperfectly saturated with oxygen. Nature then attempts to compensate by increasing the number and size of the hemoglobin carriers. Thus we may have polycythemia. The excess carbon dioxide blood stimulates the respiratory center and dyspnea ensues. A severe respiratory acidosis may occur terminally.

The diagnosis of emphysema is not as easy as one might suspect in the early and moderate phases of the disease. Dyspnea is the earliest symptom; but notably lacking, early in the disease, is orthopnea. Associated bronchitis and spasm cause cough and variable amounts of expectoration. During acute bronchiolar obstruction such as occursin asthma, dyspnea may be severe.

The prolonged bouts of asthma may cause increasing amounts of emphysema and the increment where asthma ceases to be the important factor and where emphysema is the cause of the symptoms is nebulous.

The physical examination of a patient with moderately advanced emphysema reveals a variable amount of dusky cyanosis of the skin, depending upon the amount of unsaturated hemoglobin present. There may be acral clubbing. The chest is barrel-shaped, the ribs are wide apart and the abdomen appears sunken. The chest excursions are small and the breathing is labored. Auscultation reveals supression of the breath sounds, with a short inspiratory phase and a long expiratory phase, often with sibilant rales. There may also be moist rales at the base and there may be ankle edema. The accessory breathing muscles are used in varying degrees.

X-ray examination reveals increased aeration of the lungs unless there is an unusual amount of pulmonary fibrosis or congestion. There may be accentuation of the hilar markings. The fluoroscope in addition to confirming the roentgenological picture reveals also that the normal rounded contour of the diaphragm is flattened and its mobility is restricted. There may be kyphosis.

Comment

The summaries presented above, are of interest for several reasons. Although primary pulmonary emphysema without antecedent disease such as asthma is practically nonexistant in females, it is found, though rarely, in women where there has been such a precipitating disease. In a perusal of recent literature, we have been unable to find any studies where this disease is found in female siblings.

One of our patients had suggestive secondary polycythemia, the other did not. In neither, was the carbon dioxide combining power of the blood elevated, but this was thought to be so because they received oxygen the last few days of their lives when

the blood samples were drawn for the test.

Necropsy examination revealed right ventricular hypertrophy in each patient with right ventricular dilatation in one woman (Mrs. R. M.), but none in the other. The chest x-ray showed cardiac enlargement in both, and there was gross clinical evidence of considerable right heart failure. Each had moderate evidence of nephrosclerosis. The sections of lung tissue in each revealed very marked emphysematous destruction of pulmonary tissue and there were several large bullae noted in the lungs of one patient (Mrs. R. M.).

It is interesting to observe that the thickness of the myocardium in the right ventricular wall of each of these women was about twice normal size, while the thickness of the myocardium in each left ventricle was only slightly greater than normal. However, the over all heart weight in one patient (Mrs. J. M.) was about twice the cardiac weight of the other (Mrs. R. M.). The patient who had cardiomegaly also had clinical and pathologic evidence of coronary atherosclerosis while examination of the necropsy material of her sister revealed marked right ventricular dilatation. Moreover, Mrs. J. M. had clinical hypertension which undoubtedly explains the increased weight of the myocardial mass.

Clinically, each of the patients was very obviously in respiratory distress with peripheral edema and auscultatory evidence of pulmonary fluid. Each woman expired in much the same manner although Mrs. J. M. who had hypertension and coronary atherosclerosis in addition to pulmonary emphysema, had clinical and anatomical evidence of myocardial infarction. Hinshaw has stated the infectious complications of emphysema, despite chemo-therapy continue to take a toll. He has also emphasized that cardiac disease, either right heart failure or arteriosclerotic heart disease is poorly tolerated by persons with reduced respiratory reserve, especially emphysema.

SUMMARY

In summary, we have presented clinical and anatomical material of female siblings in middle age who expired after many years of symptomatic pulmonary emphysema. Each of the sisters had right cardiac hypertrophy with congestive heart failure, while one had, additionally, essential hypertension and coronary artery sclerosis.

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THE FEASIBILITY OF LONG TERM ANTICOAGULANT IN THERAPY—

(Continued from Page 61)

Conclusions

Long term anticoagulant therapy using a prothrombin depressant drug (principally warfarin sodium) is effective, feasible, and practical. The advantages of such therapy exceed any difficulties encountered. Successful and practical long term anticoagulant therapy depends upon:

1. The physician's knowledge and familiarity with the anticoagulant selected.
2. Reliable laboratory facilities.
3. Selection of reliable cooperative patients.

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SPECIFIC AND NON SPECIFIC FACTORS IN THE MANAGEMENT OF CARDIAC DECOMPENSATION*

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This presentation is not intended to be a review of dosage schedules and indications for drugs and procedures that are of value in the management of the decompensated heart, since that information is readily available in textbooks and even in pharmaceutic brochures. It is my purpose to consider the changing concepts in the management of the cardiac patient that have been brought about by improved methods of preventative and specifically corrective therapy.

The traditional methods and materials for the treatment of congestive cardiac failure are comparatively ancient. Willius and Dry pointed out that Withering's treatise on digitalis appeared in 1785. In 1831, James Hope, of Edinburgh, advised restriction of fluids in anasarca. The origin of rapid phlebotomy resides in antiquity. In 1877, Southey introduced the use of his tubes to drain edema fluid. In 1895, the purine drug theobromine-sodium salicylate (diuretin), a forerunner of aminophylline, was introduced by Askanazy. Another important milestone was passed in 1920, when Saxl and Heilig found that preparations of mercury promoted diuresis and

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that this diuresis was interfered with by the ingestion of salt. Present-day methods for the nonspecific management of congestive cardiac failure are simply a refinement of the technics and materials utilized by these pioneer cardiologists.

With proper management, the decompensated heart should be seen less frequently in medical practice in the future as a consequence of a fourfold attack, which includes prevention, specific surgical treatment, specific medical treatment and nonspecific treatment.

Prevention

It is the history of medicine that preventative methods have come forward if treatment cannot be considered wholly satisfactory. Such has been true in smallpox, typhoid fever and, more recently, poliomyelitis. Similarly in cardiac decompensation, since traditional treatment is only palliative, attention should be directed toward prevention. Unlike the situation in the diseases just mentioned, prevention of cardiac decompensation involves a symptom complex that may have many causes. Therefore, the problem is to be aware of those factors which are increasing the work load of the myocardium that may be present in patients who come for periodic or routine examinations and to eliminate or to control these factors before decompensation intervenes. Table 1 indicates

Table 1

Clues to Potential Cardiac Failure

Arterial hypertension	Arrhythmias
Cardiac murmurs	Bronchitis and asthma
Obesity	Diabetes mellitus
Goiter	Syphilis

some of the common findings in daily practice that should be viewed as signals for the application of such investigative and therapeutic measures as are needed either to eradicate these abnormalities or to assure the physician of their harmless nature and potentiality with respect to the production of cardiac failure. This approach requires diagnostic acumen, persistence and careful individualization of patients.

Arterial hypertension requires investigation before there is evidence of cardiac decompensation or renal failure. Studies aimed at uncovering a specific and correctable cause, such as pheochromocytoma, coarctation of the aorta, primary aldosteronism, or a unilateral renal defect of vascular or inflammatory origin, must be considered in all cases before the condition is accepted as idiopathic. Surgical treatment may be curative in all these defects. When hypertension of unknown cause shows evidence of progression or if diagnostic studies reveal that the increased blood pressure is deleterious to the patient, medical treatment should be started and sustained. Although it is beyond the scope of this presentation to outline such therapy, present-day treatment revolves around the single or combined use of chlorothiazide or hydrochlorothiazide, preparations of Rauwolfia, hydralazine and the ganglion-blocking agents.

Murmurs of organic origin in young people must not be brushed off with the opinion that they will be "outgrown." Proper classification as to the specific valvular defect or congenital malformation causing the murmur is imperative. When classified, the lesion can be prognostically assessed so that proper surgical treatment can be given before irreversible damage occurs. Accurate diagnosis also permits antibiotic prophylaxis against recurrent rheumatic fever and bacterial endocarditis.

Fat people can be said to be eating themselves into cardiac invalidism in a large percentage of cases. The obese patient requires vigorous counseling in dietary treatment and also advice concerning the hazards of the obese state.

A simple adenomatous goiter that may be innocuous this year may lead insidiously to the development of a thyrocardiac state in the future. Elective thyroidectomy has its indication for cardiac prophylaxis as well as for the prevention of thyroidal carcinoma. The patient who already has signs and symptoms of thyroidal disease and on whom diagnostic studies give positive evidence for thyrotoxicosis should receive appropriate treatment without delay.

Disturbances of cardiac rhythm may be functional and insignificant, but their presence will alert the physician to the need for ruling out the possibility of hyperthyroidism or valvular disease. At times, persistent ab-

normalities in rhythm, although without an organic basis, may precipitate the decompensated state, especially in children and elderly patients. Chronic rapid arrhythmia, such as atrial fibrillation, flutter or tachycardia, should be controlled with digitalis or converted and prevented by the use of quinidine or procainamide hydrochloride.

Symptoms of chronic bronchial infection or bronchospasm, even though not symptomatic of underlying cardiac disease in the beginning, are clues as to the presence of pathologic changes that may breed chronic cor pulmonale. The avoidance of irritating factors and the use of bronchial antiseptics and spasmolytic agents are to be recommended. Diabetes mellitus, which apparently predisposes to early atherosclerosis, should alert the physician to the need for careful control of the diabetes and of the patient's weight. The potential cardiovascular consequences of syphilis will be prevented if the disease is adequately treated with antibiotics when it is recognized before aortitis becomes evident.

Specific Surgical Treatment

The past decade has seen two fabulous developments in the field of cardiology. These are the application of physiologic methods for accurate hemodynamic diagnosis and the development of surgical technics for the correction of mechanical defects within the heart. Specific surgical treatment for the cardiac patient is becoming more and more important (table 2). Extracardiac surgical procedures for the relief or correction of a number of causative factors of congestive cardiac failure gradually have evolved. The correction of severe hypertension, with relief of resulting congestive cardiac failure, is possible by surgical excision of the offending adrenal tumor when the hypertension is caused by pheochromocytoma or primary aldosteronism. Alhough these adrenal lesions are rare, their occasional occurrence must be remembered, particularly in young patients with progressive hypertension, in order to conduct appropriate studies to eliminate or support the diagnosis. The young hypertensive patient with coarctation of the aorta is readily recognized on physical examination and should be advised to have resection of the coarctate aortic segment as early as possible. The application of aortography and differential studies of renal excretion allows the identification of unilateral kidney disease causing hypertension probably by a humoral mechanism, thus providing the possibility of relief of such hypertension by nephrectomy. On rare occasions, extensive thoracolumbar sympathectomy has a place in the palliation of severe and progressive essential hypertension. Systemic arteriovenous fistulas of hemodynamic significance should be closed surgically. When a patient has congestive cardiac failure as a consequence of a toxic adenomatous goiter, thyroidectomy should be done after appropriate preparation.

Table 2

Potential Surgical Lesions Causing Cardiac Failure

Extracardiac	Cardiac
Hypertension	Congenital defects
Pheochromocytoma	Rheumatic defects
Coarctation of aorta	Mitral stenosis
Primary aldosteronism	Mitral insufficiency
Unilateral renal lesion	Aortic stenosis
Arteriovenous fistula	Aortic insufficiency
Adenomatous goiter	Constrictive pericarditis
	Atrial tumors

Lines that have been drawn arbitrarily on many occasions in the past decade to separate operable from inoperable cases of congenital and rheumatic heart disease with impaired cardiac compensation have needed revision nearly every month, with more and more lesions being included on the side of operability. It is a sad commentary on the alertness of the medical profession that the condition in many patients becomes inoperable because diagnosis and surgical consultation are delayed until irreversible changes, such as the development of severe pulmonary vascular disease or severe myocardial failure, render surgical intervention either futile or too hazardous. The perfection of methods permitting operations on the open heart means that virtually all patients suspected of having a mechanical intracardiac defect, whether congenital or acquired from previous rheumatic fever, should be considered as possible candidates for surgical alleviation of the mechanical deformity.

Specific Medical Treatment

The application of specific medical methods for the treatment of congestive heart failure,

while lacking the dramatic impact of surgical treatment, has been definitely progressive (table 3). Physicians have learned that, when

Table 3

Lesions Amenable to Specific Medical Therapy

Essential hypertension
Bacterial endocarditis
Thyrocardiac disease
Hemochromatosis of heart
Cardiopulmonary syndrome of obesity

idiopathic or essential hypertension is etiologically significant, proper treatment can reduce the blood pressure and alleviate the symptom complex. I want to emphasize that simply attacking the myocardial failure without attempting to apply today's effective therapeutic agents for reducing blood pressure borders on negligence. Careful individualization in the use of chlorothiazide, hydralazine, Rauwolfia drugs and ganglion-blocking agents to reduce systemic hypertension and yet avoid the disastrous effects of inducing retention of urea, depletion of potassium or other side effects is time-consuming but it gives many gratifying results. It is important to point out that, despite an effective decrease in blood pressure, the continued use of digitalis and other nonspecific measures is necessary because it is usually impossible to restore complete left ventricular function once myocardial failure has been produced by hypertension.

Another specific form of therapy available for the internist and the general practitioner involves the management of bacterial endocarditis that produces congestive cardiac failure. Bactericidal studies will reveal both in vitro and in vivo effectiveness of specific antibiotic therapy based on the causative organism obtained by culturing the blood. Thyrotoxic heart disease produced by exophthalmic goiter is most safely and effectively treated by the use of radioiodine; it also can be alleviated by use of such drugs as propylthiouracil or methimazole (tapazole).

I recently treated a physician who had congestive cardiac failure secondary to hemochromatosis by multiple phlebotomies, involving withdrawal of an average of 500 ml. of blood every 10 days. Over a period of 2 years, all his signs and symptoms of cardiac decompensation have disappeared and he once more has good cardiac reserve without cardiac medication. Thus, phlebotomy appears to be of specific benefit for the relief of at least some patients who have cardiac failure associated with hemochromatosis.[6] Although reduction of weight is of general benefit for any overweight cardiac patient, it is of specific benefit for the extremely obese patient whose gluttony has produced the so-called pickwickian syndrome of pulmonary hypertension, polycythemia and congestive cardiac failure.[3]

Nonspecific Treatment

Even though the application of specific surgical and medical measures may have been complete and satisfactory, one is still left with a large percentage of patients who have congestive cardiac failure. For many of these patients, nonspecific methods offer successful and satisfactory palliative treatment (table 4). This group includes patients with con-

Table 4

Nonspecific Therapeutic Measures for Congestive Failure

Philosophic acceptance of disability
Elimination of obesity, anemia and infections
Dietary treatment
Inhalation therapy
Sedative drugs
Cardiotonic drugs
Diuretic drugs
Anticoagulants
Mechanical removal of fluid

gestive failure secondary to coronary atherosclerotic disease, amyloidosis and other myocardiopathies, as well as that caused by inoperable valvular and congenital defects. Any factors aggravating the cardiac disability in these patients should be removed. This will involve the elimination of obesity, the correction of anemia and the clearing up of infections. One also must not neglect to teach the patient that philosophic acceptance of the disability and the necessary self-discipline,

which entails extra rest and the changing of work and recreation habits to fit the cardiac reserve, is essential.

When myocardial damage has so reduced cardiac output as to cause renal retention of salt and water, the diet prescribed must be restricted in its content of sodium chloride. For severe cardiac failure, rigid limitation to only 0.5 gm. of sodium daily may be needed; however, with the present-day effective diuretics, a diet containing 2 gm. of sodium usually is acceptable and is more palatable and comfortable for the patient. Medical therapy, although not revolutionary, serves the physician extremely well in the management of patients with decompensated hearts. For acute pulmonary edema especially, but also for nocturnal and chronic dyspnea and cyanosis, the administration of oxygen is invaluable; it may even be given under positive pressure for pulmonary edema and to patients who have chronic cor pulmonale. Morphine sulfate is specific in the management of acute pulmonary edema caused by left ventricular failure, but it should be used cautiously for chronic problems and probably not at all for patients who have severe pulmonary insufficiency or whose pulmonary edema is secondary to cerebral vascular disease. The judicious use of barbiturates, chloral hydrate or any of the more recently introduced sedative and tranquilizing drugs is an important adjunct for the assurance of rest and freedom from apprehension in cardiac patients.

Digitalis in one form or another is the cornerstone among therapeutic agents on which the program for the management of the decompensated myocardium should be based. It may be said to be the "specific" drug in nonspecific therapy; it should be utilized to its full therapeutic effectiveness short of toxicity, and it should be given perpetually when its use is indicated by the presence of congestive cardiac failure. Most physicians who treat cardiac patients have a favorite preparation of digitalis, whether it be digitalis leaf, one of the glycosides, such as digitoxin, digoxin or gitalin, or a combination of these preparations. They are all satisfactory, and they all have similar cardiotonic properties if utilized correctly, as well as similar toxic properties if used incorrectly. When speed is essential, as in the treatment of pulmonary edema or a severely decompensated state, the intravenous injection of lanatoside C will provide quick digitalization. This drug serves well also in comatose or postoperative patients. The preparations for oral use serve satisfactorily for less acute situations. Full digitalization based on signs such as slowing of the fibrillating heart, disappearance of gallop rhythm, alleviation of dyspnea and the induction of diuresis is the result to be sought when digitalis is prescribed. Great variation in susceptibility to this drug exists among individual patients, and adequate treatment requires a trial-and-error procedure based on an educated guess as to the likely digitalizing and maintenance doses. It is frequently necessary to allow the appearance of toxicity from digitalis, as evidenced by anorexia and nausea or by mild disturbances in cardiac rhythm, in order to learn the proper dosage schedule; the presence of such toxicity is to be criticized only when the symptoms are not properly interpreted. Toxicity from digitalis is practically never related to a specific preparation but is a function of the individual variation among patients. When the signs of toxicity occur with a previously tolerated dosage schedule, the most frequent reason lies in depletion of potassium owing to too energetic diuresis or to diarrhea, and it can be corrected by giving supplementary potassium.

The proper use of diuretic drugs in cardiac decompensation means the regular administration of sufficient doses to maintain the patient at his dry weight rather than sporadic treatment only when the patient becomes water-logged and dyspneic. The effectiveness of chlorothiazide is now proved, and hydrochlorothiazide gives promise of being another good oral diuretic. Chlorothiazide administered in 500-mg. doses twice daily every second or third day will be effective for most patients who have moderately severe retention of water. Acetazolamide (diamox), amisometradine (rolicton) and the oral mercurial preparations, although less potent, have a sufficient diuretic action to maintain this objective in cases of milder congestive failure. For the severely water-logged patient, parenteral administration of mercurial agents potentiated by acidification with ammonium chloride and by aminophylline remains the

most effective regimen. No patient should be considered to be intractable to treatment without hospitalization, severe restriction of sodium and management with this form of treatment. Aminophylline used as rectal suppositories or retention enemas or given by slow intravenous administration will effectively relieve distressing orthopnea and nocturnal dyspnea while one awaits the effects of full digitalization and effective diuresis. The hazard of derangement of electrolytes, with its deleterious effect on renal and cardiac function, is constantly to be remembered in any active diuretic program. Laboratory determinations of serum anions and cations will reveal this difficulty and permit an attempt at correction with replacement of electrolytes or withdrawal of the drug before irreversibility results.

There is also a place for anticoagulants in the medical management of congestive failure; anticoagulant therapy is especially indicated for the patient who has had known thromboembolic disease and who is under treatment for congestive cardiac failure. Anticoagulants also should be used and given indefinitely for patients who have congestive cardiac failure secondary to acute myocardial infarction. The removal of ascites and pleural fluid by paracentesis often permits the attainment of a compensated state and is indicated when diuretic therapy fails to remove these reservoirs of retained fluid.

SUMMARY

There is a present-day changing attitude from the justifiably pessimistic prognosis that formerly existed with respect to cardiac decompensation. Guarded optimism is now justified by the application of preventative medicine toward the removal of the etiologic factors and by the application of specific surgical and medical attacks on the lesions that are producing congestive cardiac failure. For those patients whose condition is not amenable to specific therapy, good palliation will in many instances permit years of comfortable life after cardiac decompensation has made its initial appearance. Such palliation is possible today by the judicious individualized prescription and supervision of programs that include the management of diet and the use of cardiotonic drugs and diuretics.

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THE SOUTH DAKOTA HEART ASSN. RESEARCH PROGRAM—

(Continued on Page 58)

those kidneys which easily and markedly utilize the shunting mechanism may contain the type of vasculature that could deprive some vital renal cells of their proper oxygen supply and put the hypertensive cycle in motion.

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for therapy of overweight patients

• **d-amphetamine**
depresses appetite and elevates mood

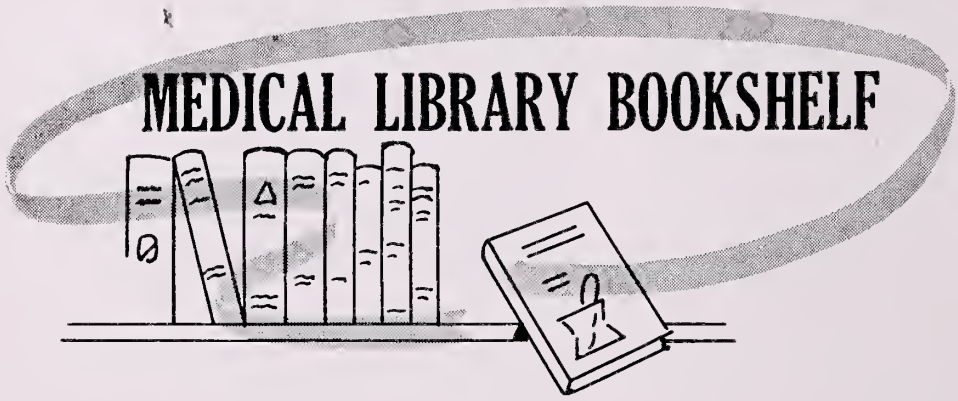
• **meprobamate**
eases tensions of dieting
(yet without overstimulation, insomnia or barbiturate hangover)

BAMADEX®
MEPROBAMATE WITH D-AMPHETAMINE SULFATE LEDERLE

is a logical combination in appetite control

Each coated tablet (pink) contains: meprobamate, 400 mg.; d-amphetamine sulfate, 5 mg.
Dosage: One tablet one-half to one hour before each meal.

Lederle
LEDERLE LABORATORIES
A Division of AMERICAN CYANAMID COMPANY, Pearl River, New York



SENIOR CITIZENS

Much has been written, and many conferences, local, state, and national have been held in the past few years on the problems of aging. The American physician has a vital part in the health program for these senior citizens and is challenged to help solve some of the problems involved. The question is whether this can be accomplished with the traditional health services and resources of the community.

Dr. Russell S. Ferguson, a navy physician and surgeon retired on 100 per cent disability met this challenge in Santa Cruz, California. An account of his accomplishments is given in the December, 1959 issue of Abbott's **Whats New**, p. 10. Dr. Ferguson's proposal of a geriatric screening program was supported by the County Medical Committee on public health and welfare. State authorization was granted to proceed under a provision of the State Department of Welfare which allows diagnostic tests in a public institution to be claimed against the administrative fund. This is on a 50-50 matching basis with the federal government. The county auditor was authorized to issue a warrant to the health department against the Department of Welfare administration fund for $25.00 for each examination made of Old Age Security recipients and their spouses. All money collected by the Health Department was turned into the general fund and used to finance the geriatric program. A diagnostic clinic is held three times a week. A social worker is provided by the Department of Welfare and the Health Department furnishes a public health nurse and the technicians. Examinations consist of a careful history, and physical examination, including X-rays if needed, routine and special laboratory studies, dental examination, and measure of eye tension for glaucoma if indicated. If medical defects are found the recipient is urged to seek treatment from the physician of his choice immediately. Reports are mailed to this physician and the nurse checks to see that the recipient visits the physician. This screening program has tremendous value in the preservation of health of older people as well as reducing the cost to the county of medical care.

The suggestion has been made that the private insurance plans including the Blue Cross and the Blue Shield include an annual diagnostic screening test among the benefits of policy holders beginning at the age of 65.

The program for the Senior Citizen in California has been greatly aided by two interrelated state agencies: The California Citizens Advisory Committee on Aging, established by the state legislature, and the Interdepartmental Coordinating Committee on Aging

established by the Governor of California. Louis Kaplan describes the functions and accomplishments of these two committees in an article in **Geriatrics,** v. 13, December, 1958, p. 808., entitled "California: the state and its senior citizens." Under the guidance of these two committees hundreds of senior citizens clubs have been established; many recreation districts have special programs for older citizens; 200,000 persons over 50 years of age are enrolled in adult education courses; many older workers have been placed in industry by the Department of Employment, in addition to housing programs and health programs.

The yearly money income of persons 65 years of age and over is less than any other segment of adult population. The median income as reported by the Census Bureau for 1956, was $1,421 for men and $728 for women. Supposing that a person in this category were confronted with the necessity to pay a $500.00 medical bill. What would be the source of funds for payment of this? A study made by the National Opinion Research Center and sponsored by the Health Information Center and reported by Ethel Shanes, Senior Study Director, gives some revealing figures. This study is entitled "Financial Resources of the Aging" published by Health Information Foundation, 420 Lexington Avenue, New York 17, New York. Interviewed were 1,734 persons, 65 and over constituting a random cross section of all older persons in the United States. According to one phase of this study the following would be the sources of funds for a $500 medical bill for both men and women:

Savings	40.2
Current income	17.0
Life insurance	1.0
Mortgage on house of property	7.2
Hospital or health insurance	7.6
Children or relatives	14.6
Public assistance or charitable aid	8.2
Could not pay such a bill	9.6

GIFT BOOKS

What next, Doctor Peck?, by Joseph H. Peck, Prentice-Hall, 1959.

At the age of 73, Dr. Peck, now retired after forty years of practicing medicine, wrote "All about men," which ranked at the top of the best seller list. His second book "What next, Doctor Peck?" is an account of his medical practice in the Deep Creek country which lies on the western border of the state of Utah. Just out of medical school he accepted an offer made by the Western Pacific Railroad to attend to the medical needs of a railway construction gang, at $1,000 a month. Later he began a practice in the mining camp at Gold Hill and was finally appointed medical supervisor of the Gosiute Indian Reservation. According to Prentice-Hall News of Books "As the medical profession's sole representative in this area, Dr. Peck numbered among his patients, friends and neighbors, the skid row refugees constructing a local railroad; the girls from the Blue Goose, a boom town mining camp palace of pleasure; prospectors and small shopkeepers who were veterans of mining camps from Tombstone, Arizona to Geldfield, Nevada, ranchers and their hands, and a primitive tribe of Indians."

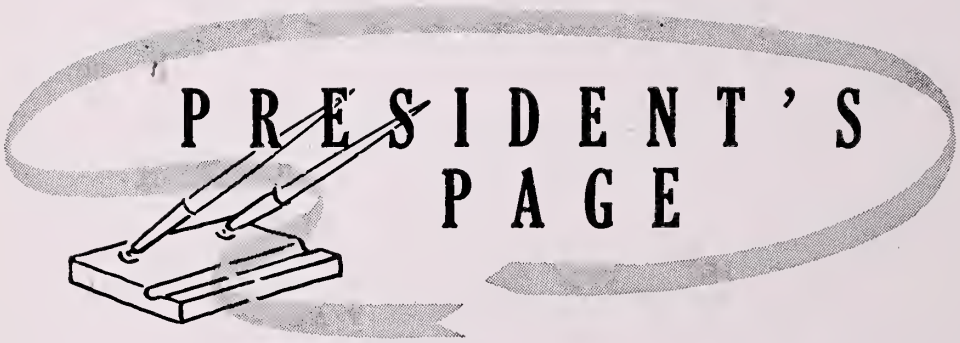
One character, Matt, was according to Dr. Peck, "a small bow-legged gray-whiskered man who looked somewhat like a ground squirrel. Most people thought him crazy because he had a big sign posted in front of his cabin stating that any black-haired woman would be shot if she set foot on his property. An interesting anecdote is told about a black-haired woman who was about to have a baby, and, as her husband had gone to Salt Lake City and Matt's cabin was the nearest inhabited place from their dugout, had wandered over for help. In panic Matt set out to find Dr. Peck. Upon their return they found that the woman had returned to her freezing cold dugout and was discovered in her own bed, nursing the newly born baby. Dr. Peck commanded Matt to make a fire and then thrust the baby into his arms and told him to warm it up. Matt recoiled like a rattlesnake but obeyed, and when Dr. Peck returned from taking care of the mother, he discovered that Matt had been crying and that the baby had awakened memories of another black-haired baby. The outcome was that Matt became very fond of Tony and often baby-sat while his parents were away.

The book is entertaining, amusing, and a contribution to the accounts of pioneering in the Old West.

Cookbook for Diabetics, American Diabetes Association, 1959.

This is an attractive compilation of recipes,

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Three representatives of the S. D. State Medical Association attended the A.M.A. Legislative session held in St. Louis last October.

At this meeting several political figures from both parties addressed the group, among them Congressman Clark of Missouri and Governor Smylie of Idaho.

Doctors were urged to get over the idea that the terms Politician and Lobbyist were nasty names as we should all take an active part in politics. We were told that the Constitution gives us the right to petition the Congress which simply means to lobby.

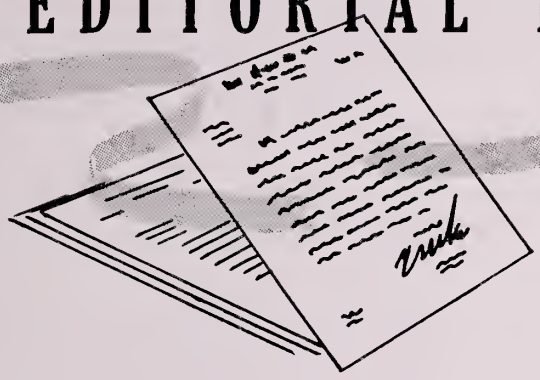
We were also told that we should contribute to the party of our choice and be willing to serve the party by serving as a precinct worker, committeeman, or candidate for office. If we do not do these things the party will be controlled by other interested groups and our desires will not receive much consideration.

A political party is no different than your State Medical Association or the A.M.A. If you do not agree with the things that they do, do not stop attending meetings but remain active and express your views. Only in this way can the organization be influenced by your ideas.

R. A. Buchanan

President

EDITORIAL PAGE



THE FORAND BILL

Many physicians are yet unaware of the implications of the "Forand Bill" and its effect on the nations' economy in years to come. Others are so sure that it will become law that they have no interest in the battle.

Labor, however, has no such complacence about the program. They not only admit they want the Forand Bill, they claim it as their own program. In a recent issue of the AFL-CIO News, William Schmtzler said "Labor builds for the future. It can never complacently accept the status quo . . . . For today the labor movement is driving ahead toward a new goal — the establishment of health and hospitalization insurance for the older men and women of our country . . . . The AFL-CIO has proposed a plan. It calls for the inclusion in our Social Security System of a health insurance program for those who have retired. It is simple, inclusive and practical. The plan has been incorporated in the Forand Bill, now before the House of Representatives."

What remains unsaid in the Labor publication is that Social Security is not insurance. If it were, it would have to admit deficits in reserve to pay known obligations of 300 **billion** dollars. (Figures from the National Association of Life Underwriters.)

Social Security is a tax and as more benefits are awarded—more taxes must be raised. 9 out of 10 people pay into the fund now while only 7 to 10 retiring benefit from it. Yet the fund now breaks even. When 9 out of 10 retiring draw benefits the fund will be overdrawn and the tax will be increased. In 1969 when the tax reaches 4½% **without the Forand Bill,** many people will be paying more Social Security tax than they pay Income tax. With the Forand Bill the cost of Social Security will increase another 50%, at a conservative estimate.

Certainly the older people must receive the best of medical care — and certainly private enterprise can find the answers without asking government to take another step toward socialism.

The time to consider these problems is now. Labor supports candidates who support their views. We, too, are entitled to support those candidates who believe in free enterprise. Make your choice now — "later" is far too late.

As president of the State Heart Association of South Dakota, I wish to thank the Journal for dedicating this issue to the Heart and presenting some of the work going on in the State. We hope this custom will continue and our contributions grow in number and value.

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COMMITTEE ON REVISION OF CONSTITUTION AND BYLAWS RECOMMENDATIONS ON PROPOSED REVISIONS

(Ed. Note: Prior to the 1959 Annual Meeting of the South Dakota State Medical Association a Committee on Revision of Constitution and Bylaws was appointed to work over the Constitution and Bylaws. A complete revision has been set up by the Committee and is published in the official publication as provided in the present constitution. Find acceptance or rejection will be voted at the annual meeting May 14-15 in Aberdeen.)

ARTICLES OF INCORPORATION OF THE SOUTH DAKOTA STATE MEDICAL ASSOCIATION

Be it resolved: that the Articles of Incorporation of this corporation be and the same hereby are amended in their entirety to read as follows:

ARTICLE I

The name of this corporation shall be the South Dakota State Medical Association.

ARTICLE II
Objects and Purposes

The objects and purposes of this corporation shall be to advance the medical and collateral sciences and to assist in acquiring a knowledge of the same; to work for the benefit of community health and welfare; to bring together the physicians of this state into one organization and unite with similar organizations to form the American Medical Association; to elevate the standards of medical education; to assist in establishing high standards of medical care in all public programs and to advise persons or agencies in the administration of such programs; and to lease, hold, purchase, buy or sell such property, real, personal, or mixed, as may be necessary or reasonably incidental to the conduct of its business, its purposes and objects; and to acquire such property or any part of it by gift, devise, or purchase.

ARTICLE III
Principal Business

The business of said corporation may be carried on in all counties of the State, but its principal office shall be in the City of Sioux Falls, County of Minnehaha, State of South Dakota.

ARTICLE IV
Existence

The existence of the Corporation shall be perpetual unless dissolved by law.

ARTICLE V
Stock

This corporation shall have no capital stock.

ARTICLE VI
Non-Profit Nature

The corporation does not and shall not afford pecuniary gain, incidentally or otherwise, to its members or to any component county or district medical society and shall not be operated for the purpose of making any profit. No part of the earnings of the corporation shall enure to the benefit of any member or any component county or district medical society. All income of the corporation shall be used for the fulfillment of the purposes for which it was formed, including operating expenses of the corporation.

ARTICLE VII
Officers

The Officers of this association shall consist of a president, president-elect, vice-president, secretary who shall also be treasurer, speaker of the House of Delegates, and the councilors.

The mode of election and terms of office of the officers shall be fixed by the Bylaws of this Corporation.

ARTICLE VIII
Governing Body

A: The Association shall create a legislative and business body to be known as the House of Delegates in such a manner as may be now or later provided in the Bylaws. It shall exercise the delegated powers of the members of the Association as a whole, and of the component societies as units. It shall hold annual sessions, shall elect officers of the association except as may be provided in the Bylaws, and shall transact all general business of the corporation not otherwise specifically provided for in the Bylaws.

B: The Council shall be the Board of Trustees of this Association and shall carry out the mandates and policies of the Association as determined by the House of Delegates.

ARTICLE IX
Cumulative and Proxy Voting

Cumulative voting and voting by proxy shall be permitted.

ARTICLE X
Seal

This association shall have a common seal as set by the House of Delegates which shall have the power to change or modify the seal as consistent with South Dakota law.

ARTICLE XI
Amendments

These Articles of Incorporation may be amended by the House of Delegates after proposed amendments have been read at an Annual Meeting and laid over until the next Annual Meeting and have been published twice in the official publication of the Corporation. Vote to amend shall consist of a simple majority of the members of the House of Delegates present and voting.

BYLAWS OF THE THE SOUTH DAKOTA STATE MEDICAL ASSOCIATION

ARTICLE I
Name

The name of this corporation shall be the South Dakota State Medical Association.

ARTICLE II
Objects and Purposes

The objects and purposes of this corporation shall be to advance the medical and collateral sciences and to assist in acquiring a knowledge of the same; to work for the benefit of community health and welfare; to bring together the physicians of this State into one organization and unite with similar organizations to form the American Medical Association; to elevate the standards of medical education; to assist in establishing high standards of medical care in all public programs and to advise persons or agencies in the administration of such programs; and to lease, hold, purchase, buy or sell such property, real, personal, or mixed, as may be necessary or reasonably incidental to the conduct of its business, its purposes and objects; and to acquire such property or any part of it by gift, devise, or purchase.

ARTICLE III
Membership

Section 1. This Association shall consist of (a) active members, (b) life members, and (c) associate members, all of whom shall be doctors of medicine licensed in the State of South Dakota or permitted to practice herein under the provisions of the Medical Practice Act.

a: ACTIVE MEMBERS of this Association are all lawfully registered physicians residing or practicing in the State of South Dakota of good moral character and professional standing who do not support or practice or claim to practice any exclusive system of healing, and who are active members in good standing in the component societies from whom, or on whose behalf, the required annual dues or special assessments have been paid to this association in accordance with the applicable provisions of Article IX Sec. 1.

b: LIFE MEMBERS are those who meet all of the following requirements:

(1) have been members for a continuous term of ten years;

(2) are not engaged in the active practice of medicine;

(3) have been made an honorary or life member of their component society;

(4) have been elected a Life Member of this Association by a majority vote of its House of Delegates or of the Council between Annual Meetings;

and, one of the following requirements:

(1) are over age 65;

(2) are incapacitated for work because of illness or infirmity.

Life members may participate in the scientific assembly and receive the Journal of the Association, but shall not be required to pay membership dues, and each life or honorary member shall continue his relationship with his component society.

c: ASSOCIATE MEMBERS are those serving on active commissioned duty in the armed forces of the United States or in an approved intern or residency program in South Dakota. They shall not be required to pay membership dues and shall receive the Journal of the Association. They shall not have a vote nor will their memberships be counted in appointment of delegates from their component societies.

ARTICLE IV
Component Societies

Section 1—Definition

The component societies of this Association consist of those medical societies representative of the medical profession of in county, or a group of counties, now in affiliation to form this State Association or those that may hereafter be organized in this state, which have adopted principles of organization not in conflict with these Bylaws, and which have upon application to the Council received charters from this Association granted only after their constitution and/or bylaws have been submitted to the Council and have received its approval. Charters issued by this Association are in full force and effect until revoked, but the Association shall have the right, without revoking a charter, to suspend some or all of the rights and privileges of a component society for the causes and in the manner provided in these Bylaws.

Section 2—Limitations

Component societies are subject to the following limitations:

a: Bylaws of State Association — The Bylaws of this Association, and the amendments thereto that may be adopted in the future, are the supreme law of the component societies. Insofar as the constitution or bylaws of the component society are contrary to, or inconsistent with, the bylaws of this Association, the constitution or bylaws of the component society are void and of no effect.

b: Council Approval of Component Society Constitution — The constitution or bylaws, or any amendment thereto, of the component society shall not become effective until approved by the Council of this Association. If a proposed constitution or bylaw, or an amendment thereto, is disapproved by the Council, the affected society may appeal to the House of Delegates at its next regular meeting and the Council must act on the matter according to the instructions of the House.

c: One Society in County — Not more than one component medical society shall be chartered in one county.

d: Component Society Membership and Discipline — Each component society shall judge the qualifications of its members, subject to review and final decision by the Council of this Association. A member of a component society whose license has been revoked shall be dropped from membership automatically as of the date of revocation. The Council of this Association shall have authority to expel a member should a component society fail to do so after being so requested by the said Council, and a component society may expel, suspend, censure or otherwise discipline a member who fails to abide by the Code of Ethics of the American Medical Association, or for such other cause as is stated in the society's constitution and bylaws, provided a copy of the charges preferred against the member is served to him, he is given at least ten days notice to prepare his defense, and a hearing is held on those charges at which he is afforded a full opportunity to be heard in his own defense, and to present witnesses and other evidence in his behalf. A component society, if its constitution and/or bylaws so provide, may drop from membership any member in arrears with respect to dues for six months or more without giving notice or holding a hearing. A member against whom disciplinary action has been voted by a component society shall have the right of appeal to the Council of this Association and eventually to the Judicial Council of the American Medical Association, under such rules as those two bodies may adopt; the disciplinary action voted by the society, however, shall remain in full force and effect during the pendency of such appeal or appeals.

Section 3—Revocation of Charters

a: Cause for Revocation — The Council may, in its discretion, revoke the charter of or suspend any or all rights and privileges of a component society, which in the opinion of the Council:

1. Fails (willfully or negligently) to pay prior to the ensuing January 1, an assessment, regular or special, levied on it;
2. Fails to investigate any charges preferred against any of its members, which, if true, would be cause for society discipline or fails to conduct in a proper manner disciplinary proceedings where a complaint has been filed in a proper manner and form;
3. Fails to execute a disciplinary sentence imposed on a member as a result of disciplinary proceedings conducted in accordance with the requirements of Article IV, Section 2, d:
4. Willfully refuses or fails to obey or follow policy, rule of conduct, or course of action regularly and validly enunciated by the House of Delegates, or

5. Commits any act which is contrary to or inconsistent with the objects of this Association.

b: Procedure of Revocation — The Council shall have jurisdiction to revoke a charter or to suspend any or all rights of a component society only if:

1. A hearing is held at which the accused society has a full and complete opportunity to be heard in its own defense;
2. At least two weeks prior to the hearing notice is given the affected society as to the time and place of the hearing and as to the alleged derelections of the society which will be the subject of the hearing; and
3. Two-thirds or more of the Council vote to suspend rights or privileges or to revoke the charter of the affected society.

c: Reinstatement — The Council in its discretion may provide conditions under which the affected society will be restored to good standing in this Association and can resume the exercise of all of the rights and privileges of component societies.

d: Appeal — A component society whose rights and privileges of its charter have been suspended or revoked by the Council, shall have the right to appeal to the House of Delegates at its next session, and the decision of the House of Delegates in the matter shall be final. Pending the determination of the House of Delegates, the decision of the Council shall be given full force and effect. In the case of every appeal, both as a board and as individuals, the Councillors shall, preceding all such hearings, make efforts toward conciliation and compromise.

Section 4. Transfer of Members

a: Relocation Within the State — When a member in good standing in a component society moves to the area of another component society in this State, he shall be given a written certificate of these facts by the secretary of his society, without cost, for transmission to the secretary of the society in the district to which he moves. Pending his acceptance or rejection by the society to which he moves, such member shall be considered to be in good standing in the component society from which he was certified and in the State Association to the end of the period, respectively, for which his dues have been paid.

b: Discretionary Selection of Society — A physician may hold his membership in that component society most convenient for him to attend on the permission of the component society in whose jurisdiction he resides.

Section 5. Professional Influence

Each component society shall have general direction of the affairs of the profession in the district, and its influence shall be constantly exerted for bettering the scientific, moral, and material condition of every physician in the district. Systematic effort shall be made by each member, and by the society as a whole, to increase the membership until it includes every eligible physician in the district.

Section 6. Delegates to Annual Meetings

At some meeting in advance of February 1st immediately prior to the annual meeting of this Association, each component society shall elect delegates and an equal number of individual alternates therefor to represent it in the House of Delegates of this Association, in accordance with these Bylaws. The secretary of each component society shall send a list of such delegates and alternates to the Secretary-Treasurer, of this Association, or his designee, at least sixty days before the annual meeting. Representation in the House of Delegates shall be contingent on compliance with the foregoing provisions.

Section 7. Recommendations for councilors

In the years when a councilor is to be elected from a district society, that society shall, in advance of April 1st, select three (3) of its members to recommend for the office of councilor from its district. The list shall be sent to the Secretary-Treasurer of the Association at least thirty (30) days before the Annual Session, and the lists shall be submitted to the Nominating Committee of the House of Delegates upon its appointment.

Section 8. Roster of Members and Programs of Societies

The Secretary of each component society shall keep a roster of its members and, if practicable, a list of all non-affiliated physicians, in which shall be shown full name, address, college and date of graduation, date of license to practice in this State, and such other information as may be required by the Council. He shall send a copy of the program of each meeting of the component society to his district councilor and to the Secretary of the State Association or his designee.

ARTICLE V
Annual Meetings

Section 1. Time and Place

An annual meeting shall be held at such place and time as provided in Article VII, Section 2, paragraph a, and Article VIII, Section 2, paragraph c, and shall be open to all members and invited guests.

Section 2. Papers

All papers read before this Association shall be its property. Each paper, when it has been read, shall be deposited with the Secretary-Treasurer or his designee. Authors of papers read before this Association shall not allow them to be published elsewhere until (1) they have been published in its Journal (2) with or approval of the Secretary-Treasurer or his designee.

ARTICLE VI
Governing Body

Section 1. House of Delegates

All governing powers of the Association, including the power to alter, amend, or repeal these Bylaws, is vested in and resides in the House of Delegates, which alone shall have authority to determine the policies of the Association. It shall elect the officers as outlined in these Bylaws and such delegates to the American Medical Association as the Association may be entitled.

Section 2. Composition

The House of Delegates shall be composed of (1) delegates elected by the component societies, each component society being entitled to elect one delegate for each 25 active and life members in good standing, or fraction thereof, who enjoy all the rights and privileges of memberships, provided each component society shall be entitled to elect at least one delegate, and (2) the officers of the Association enumerated in Article VII of these Bylaws.

Section 3. Presiding Officer

The House of Delegates in its deliberations shall be presided over by the Speaker of the House of Delegates and in his absence by any delegate selected by it as Speaker Pro-tem.

Section 4. Meeting Time

When the House of Delegates meets in regular session, it shall meet on at least two days of the annual meeting. It may also meet at other

times and shall meet in such special session in accordance with the terms of the call. The call to special session may be initiated by the President, Speaker of the House, Council, or upon petition of eleven members of the House.

Section 5. Quorum

Fifteen delegates shall constitute a quorum of the House of Delegates. All meetings of the House of Delegates shall be open to members of the Association.

Section 6. Inability of Delegates to Serve

If a delegate, and his alternate, elected by a component society die, resign, cease to be a member in good standing of the society, become disabled, or for any reason cannot assume the duties of office, or will be absent from the session of the House of Delegates, the president of the component society shall appoint another active member to serve in his stead during the balance of the term or during the disability, or absence, as circumstances indicate. As soon as practicable after the appointment, the President of the component society shall notify the Secretary-Treasurer of this Association or his designee of his action.

Section 7. Reference Committees

The speaker of the House of Delegates shall appoint from among the delegates such reference committees to which reports and resolutions may be referred as may expedite the business of the House. Such reference committees may include committees on credentials, resolutions, annual reports, tellers and judges of election, and such other committees as may be expedient.

Section 8. Special Committees

The House of Delegates may appoint committees composed of any members of the Association for special purposes, or it may provide for such committees and authorize the appointment of members by the President. Such committees shall report to the House of Delegates and members of such committees may participate in discussion and debate relative to their reports, but unless committeemen are delegates they shall not have the right to vote.

Section 9. Districts

The House of Delegates shall divide the state into Councilor Districts, specifying the political subdivisions each district shall include, and, when the best interest of the Association and the profession will be promoted thereby, organize in each a District Medical Society, of which all members of the component societies shall be members.

Section 10. Budget of Expenditures

The House of Delegates shall approve an annual budget of expenditures to be submitted by the Council.

Section 11. Memorials and Resolutions

All memorials and resolutions issued in the name of the Association shall not become effective until approved by the House of Delegates.

Section 12. Referendum

At any session, either annual or special, the House of Delegates may by a two thirds vote order a general referenum to the membership of the Association on any pending question, and a majority vote of the members voting shall determine the question.

ARTICLE VII
Officers

Section 1. Designation and Term

a: Designation — The officers of this Association shall be the President, President-Elect, Vice-President, Speaker of the House of Delegates, Secretary-Treasurer, one Councilor-at-Large who shall be the immediate Past President, one Councilor from each component society, and the Delegate(s) and Alternate(s) to the American Medical Association. The Council may employ an executive secretary who need not be a physician nor a member of the Association who may act in an ex-officio capacity at the direction of the Secretary-Treasurer.

b: Eligibility — To be eligible for election or appointment as an officer of this Association, except that of Executive Secretary, a member must possess the qualifications required by the Bylaws under Article VIII.

c: Terms of Officers — The House of Delegates at its regular meeting shall elect the following officers to serve the terms indicated: (1) President-Elect, one year; (2) Vice-president, one year; (3) Speaker of the House of Delegates, one year; (4) AMA Delegate(s) and Alternate Delegate(s), two years. (5) One-third of the members of the Council for a term of three years. (6) The Council shall elect a Secretary-Treasurer to assume office at the close of the last general session of the meeting to serve for three years. All of the officers shall serve until their successors are re-elected and installed, and each officer shall assume office at the close of the last general session of the annual meeting at which they were elected, and shall serve until the corresponding period of the annual meeting following their election, except in the case of the Councilors and the Secretary-Treasurer, and they of the third annual meeting next following their election. The AMA Delegate(s) and alternate(s) shall take office on the first of the calendar year following election for a period of two years. At the close of the last general session of the annual meeting next following his election, the President-Elect shall assume the office of President, and serve as such until the corresponding period of the following annual meeting, or until his successor assumes office at the next annual meeting. At the conclusion of the meeting at which the term of the Secretary-Treasurer is to expire, the Council shall elect a Secretary-Treasurer to assume office at the close of the last general session of the meeting and to serve until the corresponding period three annual meetings hence.

Section 2. Election of Officers

a: Nominating Committee — The President at the first meeting of the House of Delegates of the regular session, shall appoint a committee on nominations consisting of one member from each Councilor District. The committee on nominations shall report the result of its deliberations to the House of Delegates in the form of a ticket containing the name of at least one member for the office of President-Elect, of at least one member for the office of Vice-president, of a member for each of the offices to be filled at that annual meeting, and of locations for future annual meetings. No two candidates for President-Elect shall be from the same District. Whenever a councilor's term expires, the Nominating Committee shall select at least one (1) nominee for the office of councilor from each district from the list of three (3) submitted by each component district society. (See Article IV, Section 7). Each candidate for Councilor must be a resident of the District from which he is nominated.

b: Time of Election — The report of the nominating committee and the election of officers shall be the first order of business of the House of Delegates at the second session of the regular meeting of such House.

c: Nominations from the Floor — Nothing in this Article shall be construed to prevent additional nominations being made from the

floor by members of the House of Delegates.

d: Method of Election — If more than one nominee is proposed for an office the vote shall be taken by written ballot. In case no nominee receives a majority of the votes cast on the first ballot, the nominee receiving the least number of votes shall be dropped from the list of nominees and a new ballot taken. This procedure shall continue until one of the nominees receives a majority of the votes cast, when he shall be declared elected.

Section 3. Failure to Fill Office

If before the expiration of the term for which he was elected, the President or President-Elect dies resigns, is removed from office or becomes disqualified, the President-Elect or Vice-President shall succeed to the next higher office vacated. Vacancies created by the death, resignation or removal of other officers shall be filled by appointment by the Council for the unexpired portion of the term, or in the case of vacancies in the office of the Councilor or the Secretary-Treasurer, until the next annual meeting.

Section 4. Duties of Officers

a: President — The President shall preside at all meetings of the Association; shall appoint all committees not otherwise provided for; he shall deliver an annual address at such time and place as may be arranged, and shall perform such other duties as custom and parliamentary usage may require. He shall be the real head of the profession of the State during his term of office, and as far as practicable, shall visit by appointment the various sections of the State and assist the Councilors in building up the component societies and in making their work more practical and useful. He shall be a member of the Council for a period of one year immediately succeeding his term of office, known as Councilor-at-Large. He shall be an ex-officio member of all committees of the Association.

b: President-Elect — The President-Elect shall be a member of the Council, shall act for the President in his absence or disability. If the office of President should become vacant, the President-Elect shall succeed to the Presidency, serving the unfilled term prior to his own term of office.

c: Vice-President — The Vice-President shall assist the President in the discharge of his duties, and shall officiate in the absence or disability of the President and President-Elect.

d: Speaker of the House — The Speaker of the House of Delegates shall preside at the meetings of the House of Delegates, shall serve on, and be a member of the Council, and shall perform other duties as custom or parliamentary procedure require.

e: Secretary-Treasurer

1. Funds — The Secretary-Treasurer or his designee shall demand and receive all funds due the Association, together with bequests and devises. He shall pay money out of the treasury and shall subject his accounts to such examination as the House of Delegates may order, and shall annually render an account of his doings and of the state of the funds in his hands.
2. Records — The Secretary-Treasurer shall attend the general meetings of the Association and the meetings of the House of Delegates, and shall keep minutes of the respective proceedings. He shall be Secretary of the Council. He shall be custodian of all record books and papers belonging to the Association and shall keep account of all funds of the Association which come into his hands. He shall provide for registration of the members and delegates at the annual meeting. He shall, with the cooperation of the secretaries of the component societies keep a card index register of all the legal practitioners of the State by districts noting on each his status in relation to his component society, and shall transmit a copy of this list to the American Medical Association, transmitting to its Secretary each month a report containing the names of those dropped from the membership roster during the preceding month. He shall conduct the official correspondence, notifying members of meetings, officers of their election, and committees of their appointment and duties. He shall employ such assistance as may be ordered by the Council and shall make an annual report to the House of Delegates. He shall supply all component societies with the necessary blanks for making their annual reports, and shall collect from them the regular per capita assessments. The amount of his salary shall be fixed by the Council.
3. Bond — The Secretary-Treasurer shall give a bond in such sum as shall be fixed by the Council, the premium to be paid by the Association.

f: Executive Secretary — The Executive Secretary shall perform such duties as may be assigned to him by the Council, the Secretary-Treasurer or by the House of Delegates, and in the absence or disability of the Secretary-Treasurer shall perform the duties of the Secretary-Treasurer. The Executive Secretary shall give a bond in such sum as shall be fixed by the Council, the premium to be paid by the Association.

g: Officers Reports — All officers shall submit an annual report to the House of Delegates at the Annual Meeting.

ARTICLE VIII
Council

Section 1. Composition

The Council shall consist of the Councilors, the President, the President-Elect, the Vice-President, the immediate Past President, (Councilor-at-Large) the Speaker of the House of Delegates, the Secretary-Treasurer of the Association, and the Delegate(s) to the American Medical Association. A majority of its members shall constitute a quorum.

Section 2. Duties

a: General —The Council shall be the Board of Trustees of the Association and shall carry out the mandates and policies of the Association as determined by the House of Delegates. The Council shall have full authority and all of the prowers of the House of Delegates between annual meetings, unless the House of Delegates shall be called into session as provided by these Bylaws, or unless the House of Delegates shall by resolution otherwise specifically provide, and in performing such acts and in transacting such business shall manage and conduct all of the property, affairs, work and activities of the Association.

b: Board of Censors — The Council shall be the Board of Censors of the Association. It shall consider all questions involving the right and standing of members, whether in relation to other members, to the component societies, or to this Association. All questions of an ethical nature brought before the House of Delegates or the general meetings shall be referred to the Council without discussion. It shall hear and decide all questions of so-

cieties when an appeal is taken from the decision of an individual Councilor. Its decisions in all cases, including questions regarding membership in this Association, shall be final unless otherwise provided herein.

c: Annual Meeting — The Council through its Secretary, or his designee, shall arrange for the annual meeting of the Association, including provision of suitable meeting places and dates, arrangements for dinners, luncheons, social affairs, collecting receipts and disbursing payment of all expenses. The Council may ask the assistance of local committees appointed by the district society in which the meeting is to be held for the purpose of local arrangements, and may request advice on program content from any and all of the specialty groups in the State.

d: Appointments — The Council shall by appointment fill any vacancy in office not otherwise provided for which may occur during the interval between annual meetings of the House of Delegates; the appointee shall serve until his successor has been elected and has qualified.

e. Headquarters — The Council shall provide such headquarters for the Association as may be required to conduct its business properly.

f. Publications — The Council shall provide for and superintend the issuance of all publications of the Association, including proceedings, transactions, and memoirs and shall have authority to appoint an editor and such assistants as it deems necessary.

h. Management of Funds

(1) Budget — The Council shall adopt an annual budget providing for the necessary expenses of the Association, which shall be prepared by the Committee on Auditing and Appropriations and presented for the Council's consideration at the first meeting of the Council at the annual meeting of each year.

(2) Audit — The Council shall prescribe the methods of accounting and through a committee of three of its members, to be known as the Committee on Auditing and Appropriations, shall audit all accounts of this Association.

(3) Expenditures — All resolutions of the House of Delegates providing for appropriations or expenditures shall be referred to the Council, and all of such which are approved by the Council shall be included in the annual budget. The Council may, by order, authorize any officer or committee to expend money not provided in the budget as adopted, or to spend any money in excess of the budget limitation.

(4) Salaries — The salaries of all employees of the Association shall be fixed by the Council.

2. Annual Report — The Council shall submit an annual report to the House of Delegates, which shall specify the character and cost of the publications of the Association, the amount and character of all of its property, and shall provide full information concerning the management of all affairs of the Association which the Council is charged to administer.

Section 3. Meetings

The Council shall meet on the day preceding and the day following the annual meeting of the House of Delegates and at such times as necessity may require, subject to the call of the President or Chairman of the Council or on petition of one-third of the members of the Council.

Section 4. Duties of Councilors

Each Councilor shall be organizer, peacemaker, and censor for his district. He shall visit each component society in his district at least once a year for the purpose of organizing component societies where none exist, for inquiring into the condition of the profession, and keeping in touch with the activities of and to aid in the betterment of the component societies in his district. He shall make an annual report of his work and of the condition of the profession of each component society in his district at the annual meeting of the House of Delegates. The necessary traveling expenses incurred may be allowed on a proper itemized statement, but shall not be construed to include his expense in attending the annual meeting of the Association.

ARTICLE IX

Finances

a: Dues and Assessments

(1) Determinations — Funds for conducting the affairs of the Association shall consist of the annual dues and assessments which shall be determined by the House of Delegates, and shall be levied per capita on the members of the Association, provided that the House of Delegates may make exceptions to equal per-capita assessments or special assessments as it may determine in regular or special session. Dues and assessments shall be payable on or before January 1 of the year for which they are levied.

(2) Payment — The Secretary-Treasurer of each component society shall cause to be collected and shall forward to the offices of the Association the dues and assessments for its members, together with such data as shall be required for a record of its officers and members. Any member whose name has not been reported for enrollment and whose dues for the current year have not been remitted to the Secretary-Treasurer of this Association or his designee on or before March 1, shall stand suspended until his name is properly reported and his dues for the current year properly remitted.

(3) Exceptions — State or federally employed physicians who are active members of other state societies but temporarily stationed in South Dakota shall be granted membership without payment of state dues. Life and associate members shall not be required to pay dues. A new member enrolled after July 1st of each year shall be required to pay only one-half of the annual dues.

(4) Record of Payment — The record of payment of dues and assessments on file in the office of the Association shall be final as to fact of payment by a member and as to his right to participate in the business and proceedings of the Association and of the House of Delegates.

(5) Delinquency — For the purpose of medical defense a member shall be deemed delinquent from and during the period extending from January 1 of the current year until his dues and assessments shall have been received at the offices of the Association, having been remitted by the Secretary of the component society of which he is a member.

b: Additional Revenue — The House of Delegates may at its discretion authorize the creation of additional sources of revenue not inconsistent with the non-profit nature of the Association.

Section 2. Management of Funds

Supervision of the funds, investments, and expenditures of the Association is vested in the Council or in such committee as the Council may designate. (See Article VIII, Section 2, Paragraph h).

ARTICLE X
Committees

Section 1. Committee Categories

There shall be two categories of committees of the Association. These shall be standing committees, as hereinafter provided, and special committees, as authorized in Article VI, Section 7. Said committees shall report annually to the House of Delegates.

Section 2. Standing Committees

a. Designation

The standing committees of this Association shall be as follows:

Committee on Scientific Work
Committee on Legislation
Committee on Publication
Committee on Medical Defense
Committee on Medical School Affairs, Medical Education and Hospitals
Committee on Medical Economics
Committee on Necrology
Committee on Public Health
Committee on Rheumatic Fever and Heart Disease
Committee on Diabetes
Executive Committee
Grievance Committee
Committee on Cancer
Committee on Tuberculosis
Committee on Maternal and Child Welfare

b: Composition — Unless otherwise provided in these Bylaws, each of these committees shall consist of three members, each of whom shall serve for a term of three years. One member of each of these committees shall be appointed annually by the President, provided that at the next annual session one member of each of the foregoing committees shall be appointed for a term of three years, one each for two years, and one each for one year.

Section 3. Duties of Committees

a. Scientific Work — The Committee on Scientific Work shall consist of three members, of whom the Secretary-Treasurer shall be one, and shall determine the character and scope of the scientific proceedings of the Association for each session, subject to the instructions of the House of Delegates. Thirty days previous to each annual session it shall prepare and issue a program announcing the order in which papers and discussions shall be presented.

b: Committee on Legislation — The Committee on Legislation shall consist of six (6) members who shall serve for three year terms except that the first appointments shall be one, two, and three years respectively for two members each and that these members shall be appointed from each of any six District Societies in the State. The duties of this Committee shall be to study all proposed National and State Legislation affecting the public health or the medical profession, and to take such action as it deems necessary. This Committee shall report to the Council at its regular meetings.

c: Committee on Publication — The Committee on Publication shall have referred to it all reports on scientific subjects and all scientific papers and discussions heard before the Association. It shall be empowered to curtail, abstract or reject papers and discussions. The Committee shall have authority to arrange for the publication and distribution of the Journal.

d: Committee on Medical Defense — The Committee on Medical Defense shall prepare plans and establish rules for the defense of members of this Association against who suits for alleged malpractice have been brought. It may assist in the defense of any member sued for alleged malpractice if the member was in good standing and had complied with the rules of the Committee when the service on account of which suit was brought was rendered.

1. Organization — The Committee shall consist of five (5) members appointed by the President of the Medical Association with the advice of the Executive Committee of the Council for terms of five years, except that the first member of the Committee shall be so appointed that the term of one member shall be for one year, that of one member for a term of two years, that of one member for a term of three years, that of one member for a term of four years, and that of one member for a term of five years.

   Every member of the South Dakota Bar, who is in good standing, actively engaged in trial practice, and familiar with malpractice suits, shall be potential ex-officio legal members of such Committee, and the President of the Medical Association shall designate one of such attorneys to be a member of such Committee for each separate meeting. Due consideration shall be given by the President to the appointment of the attorney, if any, who is familiar with the matter which is to be considered by such Committee.

   Every member of the Medical Association shall be a potential member of this Committee. The chairman may call any member for a case with approval of the Executive Committee.

2. Duties — The Committee's express purpose is to review the facts and circumstances leading to all and any malpractice proceedings or threatened proceedings brought against any member of the South Dakota State Medical Association.

   This Committee does not offer legal counsel to the member who is threatened or has an impending suit brought against him, but is organized for the express purpose of reviewing these cases and deciding on the merit of the suit or threatened suit and to express to the individual member its advice on professional conduct in the event of the said threatened or impending suit. The Committee shall have the power to summon any member of the Association or the Association employees to any meeting of said Committee and refusal of the member or employee of said Association shall be cited before the Council for appropriate action and in case of an Association member any advice from the Committee or further action of the impending or threatened suit will be withdrawn.

   The Committee will receive reports on threatened or impending suits from any member of the Medical Association or his legal representative.

3. General Procedure — General procedures of operation shall be set forth by the committee and approved by the Council.

e: Committee on Medical School Affairs, Medical Education and Hospitals — The Committee on Medical School Affairs, Medical Education and Hospitals shall serve in this State for the Council on Medical Education and Hospitals of the American Medical Association, and shall have referred to it all questions pertaining to hospitals and medical education. The Committee shall consist of six members, two of whom shall be appointed each year for three year terms.

f: Committee on Medical Economics — The Committee on Medical Economics shall investigate matters affecting the economic status of physicians.

g: Committee on Necrology — The Committee on Necrology shall gather data concerning deceased members.

h: Committee on Public Health — The Committee on Public Health shall consider all matters relative to Public Health activities.

i: Committee on Mental Health — The Committee on Mental Health shall survey activities regarding Mental Health and cooperate with local and national organizations and committees on mental health. The Committee shall consist of six members.

j: Committee on Rheumatic Fever and Heart Disease — The Committee on Rheumatic Fever and Heart Disease shall cooperate with local and national organizations and committees on rheumatic fever and heart disease.

k: Committee on Diabetes — The Committee on Diabetes shall conduct activities regarding diabetes and cooperate with local and national organizations and committees on diabetes.

l: Executive Committee — The Executive Committee shall consist of the President, President-Elect, Vice-President, Secretary-Treasurer, Speaker of the House, and Chairman of the Council. Its duties shall be advisory in nature to the various officers and committees when indicated, and it shall function when asked to do so by any one of them. It shall also have other functions as delegated from time to time by the House of Delegates or by the Council.

m. Grievance Committee — The Grievance Committee shall consist of five past-presidents of the Association, who shall serve five years except that the first appointments shall be one, two, three, four, and five years respectively.

The Committee shall receive grievances, investigate the facts, attempt to mediate the dispute, or refer such grievances to the proper authorities, and to educate the profession in the ethics of the practice of medicine.

Rules of procedure of the Committee shall be submitted to the Council for approval.

n: Committee on Cancer — The Committee on Cancer shall make appropriate studies of the problem of cancer and shall represent the Association in liaison with the state and national lay-sponsored cancer societies.

o. Committee on Tuberculosis — The Committee on tuberculosis shall make appropriate studies and recommendations for the control of tuberculosis.

p: Committee on Maternal and Child Welfare — The Committee on Maternal and Child Welfare shall be charged with the study of problems relating to that field.

Section 4. Cooperation with Committees

Any member of this Association who shall willfully refuse or fail to assist or cooperate with the investigations of any Association Committee, especially the Grievance Committee and the Medical Defense Committee, may be subject to disciplinary action of the Council of the Association. This disciplinary action shall be taken by the issuance of a citation directed to the member, which citation shall specify the time and place of hearing thereon and shall be served either personally or by registered mail. Upon citation such member shall be given full opportunity to explain his refusal to cooperate with the committee or committees.

The Council upon such hearing, may excuse the non-cooperation, censor the member, suspend him for a definite period of time, or expel him from membership. If the circumstances warrant, and by a majority vote of the members of the Council, the citation may provide that such a member is suspected until the time of the hearing fixed by the citation.

ARTICLE XI
Rules of Order

The deliberations of this Association, the House of Delegates and the Council shall be conducted in accordance with parliamentary procedure as defined in Robert's "Rules of Order, Revised."

ARTICE XII
Amendments

These Bylaws may be amended at any annual meeting by a majority vote of the delegates present at that meeting if the proposed amendment has been properly submitted to the members of the House of Delegates not less than thirty days prior to such annual meeting.

ARTICLE XIII
Repeal of Previous Bylaws

On the adoption of these Bylaws, all previous Constitution and Bylaws and motions of record, and rules and regulations in conflict with these Bylaws are hereby repealed, provided that all officers, delegates and elected committee-men now in office shall continue their incumbency until their successors are duly elected as provided in these Bylaws.

Constitution and Bylaws — Adopted May 7, 1929, by the House of Delegates at the 28th annual session at Mitchell, South Dakota.

Amended May 17, 1933; May 15, 1935; May 10, 1938.

Revised and adopted May 30, 1949, by the House of Delegates at the 68th annual session, Yankton, South Dakota.

Amended May 1950; May 1951; May 1952; May 1954; May 1955; May 1956; May 1957; June 1959.

Revised and adopted May 15, 1960, by the House of Delegates at the 79th annual meeting, Aberdeen, South Dakota.

Committee on Revision of Constitution and Bylaws
C. Rodney Stoltz, M.D., Watertown, Chairman
A. K. Myrabo, M.D., Sioux Falls
E. J. Perry, M.D., Redfield

MEDICAL LIBRARY BOOKSHELF—

(Continued from Page 73)

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Mrs. Esther Howard
Medical Librarian

EDITORIAL PAGE—

(Continued from Page 75)

The primary function of the Heart Association is to provide better understanding of the heart and its diseases to all.

It has been and will remain the policy of the State Heart Association to integrate its programs of education and research with the best interest and full accord of the State Medical Association.

The education program is aimed at the professional level as well as toward the general public in presenting new concepts and accepted practices as they are verified thru proper channels as well as correcting every threatening mis information through unauthorized channels.

Extensive research programs are active nation wide (with a fine one in our State too) that God willing may perhaps in the next decade provide a major breakthrough toward effective management of rheumatic fever, atherosclerosis and other serious heart and circulatory diseases.

I speak for many dedicated people in the State who work silently and whole heartedly that we may someday achieve our ultimate goal in combating many forms of heart disease thru voluntary effort. They ask that we do our part in whatever way we can to make the Heart Association of South Dakota an even more effective organization, thru traditional American ingenuity.

H. W. Farrell, M.D.

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Pop's Proverbs

The delinquent payments on a neglected wife's desires cannot be safely assumed by her doctor. Just suppose you DID acquire her!

NEWS NOTE

W. E. Martyn, M.D., Aberdeen, was married to Miss Penny Rybandt on New Year's Day.

SEVENTH DISTRICT DISCUSSES INSURANCE

Forty members of the Seventh District Medical Society met at Gionanni's in Sioux Falls to discuss the possibility of a group hospitalization program for the society and to hear the AMA presentation on the Forand Bill narrated by Dr. Orr.

Representatives of Blue Cross, Mutual of Omaha, and Woodmen Accident made presentations to the Society. Dr. Howard Shreves presided at the meeting.

HURON DISTRICT ELECTS GRYTE

Dr. Clifford Gryte, Huron, was named president of the Huron District Medical Society at its annual meeting. Other officers are Drs. Y. H. Charbonneau, vice-president; E. C. Hanisch, Jr., Secretary-Treasurer, and Roscoe Dean and T. A. Hohm, delegates.

FEE ADVISORY COMMITTEE MEETS

The Fee Advisory Committee met in Sioux Falls Saturday, January 9th to give further study to the proposed Relative Value Fee Study of the South Dakota State Medical Association.

Twenty members of the committee were in attendance, spending a full afternoon on the study. The proposed study was referred to the Council at the close of the session.

BLUE SHIELD BOARD MEETS IN SIOUX FALLS

The Board of Directors of South Dakota Medical Service (Blue Shield) met in Sioux Falls Saturday, January 9th to consider a number of matters of importance to expansion of the Blue Shield program.

On the agenda were discussions of the new Federal Employees Insurance program, recommendations for combining all Blue Cross contracts in the State with Blue Shield, investment program, etc.

A decision was made to have Dr. Donald H. Breit, president of Blue Shield, Dr. R. A. Buchanan, president of the South Dakota State Medical Association, Robert Beckwith, Board member; and staff members John C. Foster and R. C. Erickson represent Blue Shield at the annual professional relations conference in Chicago. Dr. H. Russell Brown, also a South

Dakota Board member was announced as a speaker on the program.

Delegate to the annual Blue Shield convention in Los Angeles will be Dr. Breit with alternates Dr. Paul Hohm and John C. Foster.

FORMER DAKOTAN IS SPACE LEADER

Major Cloid D. Green, former S. D. physician is the head of the Air Force's space monkey project.

Green, attached to the school of aviation medicine at Brooks Air Force Base here, serves as project officer for project "Hermes," which takes its name from the Greek god of speed. He is also medical officer in charge of altitude chambers.

As such, Green supervised construction of the space capsule which carried "Sam," a 30-month-old monkey, 55 miles above the earth in a launching last Dec. 4 from Wallops Island, Va.

Green said Sam is living a "normal, healthy monkey life," in a house at the Balcomes Research Center at Austin, Texas. The monkey was "visibly fatigued" when taken from a small cylindrical chamber of the space capsule which was retrieved from the ocean by the destroyer Borie, but recovered within two days.

No Present Plans.

There are no "present plans" to send Sam into space again, Green said.

"I don't like the flat quotation that he will never be sent on another space flight — but who knows what will be happening a year from now?" Green asked. He said a need may develop later for testing on multiple exposure to space flight.

Green added with a grin, "It seems like there ought to be plenty of monkeys to go around."

Green spoke from his small office at Randolph Air Force Base, about 20 miles north of San Antonio, and from an electronics instrument shop located at the end of a dimly-lit hallway from his main office.

Being Moved

Both are in the process of being moved to Brooks AFB. In a corner of the instruments shop — where electronic systems are devised to record the monkey's physical reactions in space flight — were two cages with rabbits used in basic experiments.

Green said he is working on problems of monitoring an individual's system—physiological and cardiovascular — and the respiratory system.

Lived in Sioux Falls

The bespectacled, burr-haired physician lived as a boy in Sioux Falls, finishing grade school and high school there. He was graduated from the University of Minnesota School of Medicine in 1945 and engaged in general practice of medicine at Parker, S. D., until 1955. He then took post-graduate work in anaethesiology at the State University of Iowa, before entering the Air Force.

He said he does not know how long he will remain in the Air Force after project "Hermes" nears completion, but quickly added, "I'm not a career service-man."

Increased Knowledge

"The final product of this project is going to be increased knowledge to science. Putting man into space means merely flying out farther than before — hardly an end in itself. The immediate goal is protecting man in outer space — in very high altitude flight," Green said.

Also, he said, "There is a lot of value in the program to the public — and not just being able to fly higher and faster than the pilots of another nation."

Findings can be of use, Green said, in combatting heart disease, and of testing performance of the heart under stress.

"It's only been in the last year or two that we've learned anything about the heart and circulatory system from exercise — through the use of better recording instruments."

ANTITRUST SUIT ON SALK VACCINE THROWN OUT

The Federal government's antitrust case against five large drug manufacturers for allegedly fixing Salk polio vaccine prices from 1955 to 1957 was thrown out of the U. S. District Court in Trenton, New Jersey in November, 1959. Federal Judge Philip Forman dismissed charges of criminal conspiracy against the companies without waiting for the defense arguments. In a lengthy opinion, he said that when the basic elements of the case were considered,

MORE
HIGHLY INDIVIDUALIZED
THERAPY
FOR THE
RHEUMATIC
"IN-BETWEEN"

when the
rheumatic
disorder
is more
than salicylates
alone
can control...

...but
contro
requires les
thar
intensive
steroid therapy
alone



Aristo

wider latitude in adjusting dosage

ARISTOGESIC is particularly effective for relief of chronic — but less severe — pain of rheumatic origin. ARISTOGESIC combines the anti-inflammatory effects of ARISTOCORT® Triamcinolone with the analgesic action of salicylamide, a highly potent salicylate. Dosage requirements for ARISTOGESIC are substantially lower than generally required for each agent alone. The exceptionally wide latitude of dosage adjustment with ARISTOGESIC permits well-tolerated therapy for long periods of time with fewer side effects.

Indications: Mild cases of rheumatoid arthritis, tenosynovitis, synovitis, bursitis, mild spondylitis, myositis, fibrositis, neuritis, and certain muscular strains.

Dosage: Average initial dosage: 2 capsules 3 or 4 times daily. Maintenance dosage to be adjusted according to response.

Precautions: All precautions and contraindications traditional to corticosteroid therapy should be observed. The amount of drug used should be carefully adjusted to the lowest dosage which will suppress symptoms. Discontinuance of therapy must be carried out gradually after patients have been on steroids for prolonged periods.

Each ARISTOGESIC Capsule contains:

ARISTOCORT® Triamcinolone	0.5 mg.
Salicylamide	325 mg.
Dried Aluminum Hydroxide Gel	75 mg.
Ascorbic Acid	20 mg.

Supply: Bottles of 100 and 1,000.



Steroid-Analgesic Compound LEDERLE

Lederle

EDERLE LABORATORIES, A Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

"there remains only the allegation that the defendants consciously charged uniform prices to public authorities . . . . and refused to reduce them, although repeatedly asked to do so. That their actions were not independent and were contrived, can not be but a matter of suspicion and conjecture." He went on to say that the charge of conspiracy in the case under consideration "never rises higher than the level of a suspicion and certainly does not meet the test imposed upon the Government in a criminal case, resting only circumstantial evidence."

The Government has no right of appeal from this action; however, the Justice department could file a civil suit seeking damages and an injunction barring any price collusion in the future.

CIVIL DEFENSE CONFERENCE SET

The AMA Council on National Defense will sponsor the eleventh conference of the County Medical Societies Civil Defense Organization in Chicago, at the Palmer House, November 5-6, 1960.

The meeting will take up medical disaster preparedness and also will discuss the actions of some local medical groups who have a good workable disaster preparedness program. Members of local medical societies' Committees on Civil Defense are invited to attend.

Copies of the program can be obtained by writing Frank W. Barton, Secretary of the Council on National Defense, American Medical Association, 535 North Dearborn St., Chicago, 10, Illinois.

NEW DIRECTORY OF BLOOD SERVICES

Informational material and specific data for 1959 are now being gathered from all hospitals and blood banks in the United States and territories by the Joint Blood Council. The information will be published in a new directory of Blood Transfusion Facilities and Services and issued by early spring.

The first directory produced by the Council covered the year 1956 and included 2202 facilities which collect, process, distribute or use whole blood.

Technical and operating procedures of blood banks and hospital transfusion services as well as sources and usage of blood are to be recorded. Also included will be approvals, supervision, reciprocity exchange systems and other services such as tissue storage banks. This information has been found to be useful to hospitals, blood banks, and medical libraries and to Federal medical agencies.

The Joint Blood Council is a non-profit organization formed and supported by the American Association of Blood Banks, American Hospital Association, American Medical Association, American Red Cross and the American Society of Clinical Pathologists. Its primary purpose is to "establish a national blood program in order to assure an adequate supply of blood and blood derivatives to the civilian and military population at all times of peace or emergency —." The Council's directory service furnishes a basis for such a program by locating transfusion services and blood banks and recording their capabilities and dependencies.

The forthcoming directory will list hospitals using blood as well as hospital blood banks, Red Cross centers and community blood banks which collect, process and distribute it. All facilities are requested to complete the directory cards and return them immediately.

CLINICAL REVIEWS SCHEDULED AT MAYO CLINIC

Staff members of the Mayo Clinic and the Mayo Foundation for Medical Education and Research will present again this year a three-day program of lectures and discussions on problems of current interest in general medicine and surgery.

The American Academy of General Practice and the College of General Practice of Canada have advised the Committee on Clinical Reviews that up to 21 hours of Category I credit may be obtained by members of the American Academy of General Practice or the College of General Practice of Canada attending.

There are no fees for this program.

The number of physicians who can be accommodated is necessarily limited. Those wishing to attend should communicate with the Clinical Reviews Committee, Mayo Clinic, Rochester, Minnesota.

BLUE SHIELD SHOWS GROWTH NATIONALLY

More than 1,600,000 persons enrolled in the 73 Blue Shield Plans located in North America during the first nine months of 1959, and during the same period Blue Shield paid out over $487,500,000 for medical-surgical care rendered to members, the National Association of Blue Shield Plans reported today.

"Of significance is the fact that the nine month enrollment gain for 1959 reflected a substantial improvement over the 244,673 gain for the corresponding nine months of 1958," the national association stated in its report. Total membership in the various Blue Shield Plans reached 44,214,441 as of September 30, 1959, which represents an enrollment of nearly 24 per cent of the total United States population.

Total payments of doctors in behalf of members, which exceeded 480 million dollars during the nine month period ending September 30, represented 90 per cent of the total income of all Plans. Meanwhile, the Plans expended just under 10 per cent of total income for administrative expenses.

"Both the nine month financial and enrollment reports," the national association reported, "bear out the vital part Blue Shield plays in the health care of the nation. The enrollment gain reflects the continued acceptance on the part of the public for the medical-surgical programs offered by Blue Shield Plans, and the benefits provided represent an all time high for a nine month period and serves to point up the extent to which Blue Shield is helping pay the nation's yearly doctor bills.

"FRACTURE" MEETING IN CHICAGO

The Fourth Post-Graduate Course on Fractures and Other Trauma, sponsored by the Chicago Committee on Trauma of the American College of Surgeons, will be held April 27 through April 30, 1960, at the John B. Murphy Memorial Auditorium, 50 East Erie Street, Chicago.

Teachers prominent in the field of trauma from the five Chicago medical schools, and chiefs of services from leading Chicago hospitals will lead discussions on all phases of trauma: Injuries to the eye, face, neck, chest, abdomen and extremities; repair of bone and cartilage in trauma; aseptic necrosis; urological complications of fractures; intramedullary fixation of fractures; bone grafts; and other related subjects.

Distinguished visiting speakers will be Doctors James E. Bateman, Truman G. Blocker, Jr., Walter P. Blount, David M. Bosworth, Harold B. Boyd, Joseph H. Boyes, Charles J. Frankel, George C. Morris, Jr., Sam A. Morton, and Preston A. Wade. They will present lectures on management of open fractures, injuries to the hand, femoral neck and intertrochanteric fractures, roentgenological aspects of trauma to the spine, peripheral nerve injuries, plastic surgery of the face and extremities, athletic injuries, surgical management of vascular injuries, and injuries to the neck.

Registration fee will be $50. Residents will be admitted free upon presentation of a note of identification from chief of service.

Inquiries should be addressed to John J. Fahey, who is chairman of the Committee on the Post-Graduate Course on Fractures and Other Trauma. (1791 W. Howard St., Chicago 26, Illinois).

HEART ASSOCIATION INVITES FLEMMING

The Hon. Arthur S. Flemming, Secretary of the Department of Health, Education and Welfare, has been invited to address the Annual Meeting of the South Dakota Heart Association which will be held in Sioux Falls on Saturday, May 28, 1960.

Secretary Flemming was the main speaker at the annual luncheon of the Council on Community Service and Education during the National Assembly of the American Heart Association in Philadelphia in October. His talk, entitled "The Role of Voluntary Health Associations in Meeting Future Health Needs," constituted a major endorsement of the voluntary health agencies in general, and of the program of the American Heart Association in particular, by the highest government authority qualified to speak on this subject, aside from President Eisenhower himself.

Further details of the Annual Meeting plans will be announced in the near future.

NEWS NOTES

Dr. D. K. Haggar formerly associated with the Medical Arts Clinic in Watertown has relocated in Phoenix, Arizona.

* * *

The South Dakota State Medical Association was recently cited by the Sioux Falls Safety Council for its activities in the fields of Auto and Child safety.

* * *

A film, "No Margin For Error" is now available for loan from the State Department of Health. The cause and effect of human mistakes in the complex system of the modern hospital is depicted. Good for showing at staff or district meetings.

* * *

Dr. Rudolf Orgusar formerly at Revillo and Onida, and more recently at Pensacola, Florida, has opened a practice in Woonsocket.

* * *

Dr. Carlton White, was named medical officer in charge of Sioux Sanitarium in Rapid City.

* * *

Dr. Joseph Hamm, Sturgis, has been reelected president of the Meade County Mental Health Association.

* * *

Dr. R. E. Bormes, Aberdeen, was named diplomate of the American Board of Surgery in October.

* * *

Dr. George Mangulis has moved into a new clinic building located next to the hospital in Philip.

THE NEW ORLEANS GRADUATE MEDICAL ASSEMBLY

Twenty-Third Annual Meeting

MARCH 7, 8, 9, 10, 1960

GUEST SPEAKERS

ANESTHESIOLOGY
LeRoy D. Vandam, M.D.,
Boston, Massachusetts

DERMATOLOGY
Clarence S. Livingood, M.D.,
Detroit, Michigan

GASTROENTEROLOGY
Henry D. Janowitz, M.D.,
New York, New York

GENERAL PRACTICE
John G. Walsh, M.D.,
Sacramento, California

GYNECOLOGY
E. Stewart Taylor, M.D.,
Denver, Colorado

INTERNAL MEDICINE
Charles N. Burnett, M.D.,
Chapel Hill, N. Carolina

INTERNAL MEDICINE
To be announced

NEUROSURGERY
Donald D. Matson, M.D.,
Boston, Massachusetts

OBSTETRICS
Frank R. Lock, M.D.,
Winston-Salem, N. C.

OPHTHALMOLOGY
Trygve Gundersen, M.D.,
Boston, Massachusetts

ORTHOPEDIC SURGERY
Carroll B. Larson, M.D.,
Iowa City, Iowa

OTOLARYNCOLOGY
John J. Conley, M.D.,
New York, New York

PATHOLOGY
W. A. D. Anderson, M.D.,
Miami, Florida

PEDIATRICS
Franklin H. Top, M.D.,
Iowa City, Iowa

PROCTOLOGY
Raymond J. Jackman, M.D.,
Rochester, Minnesota

RADIOLOGY
David G. Pugh, M.D.,
Rochester, Minnesota

SURGERY
Bentley P. Colcock, M.D.,
Boston, Massachusetts

SURGERY
Robert M. Zollinger, M.D.,
Columbus, Ohio

UROLOGY
George C. Prather, M.D.,
Brookline, Massachusetts

NEWS NOTES

Dr. Wallace A. Arneson, Sioux Falls, has been named president of the South Dakota Chapter of the American College of Surgeons. He succeeds **Dr. H. Russell Brown,** of Watertown, **Dr. A. A. Lampert,** of Rapid City, was named secretary-treasurer.

* * *

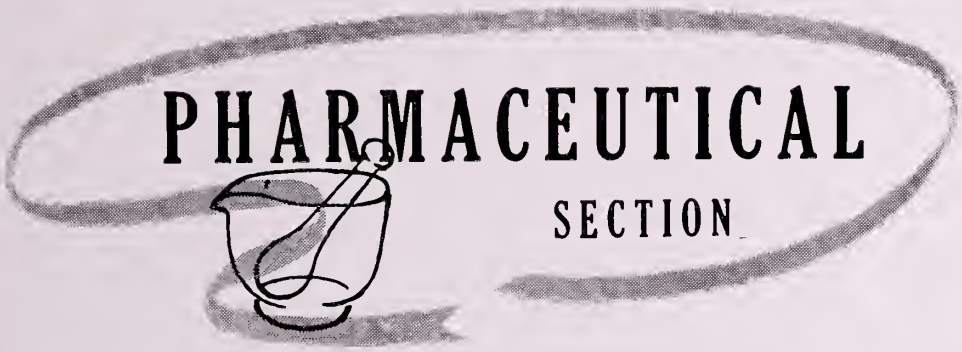
Dr. Charles W. Mayo was honored by the Aberdeen District Medical Society on January 22, when he was in Aberdeen to speak at the Chamber of Commerce 75th Anniversary dinner. The District Society put on a reception at the Alonzo Ward Hotel ballroom, where Dr. Mayo was greeted by many South Dakota dignitaries.

* * *

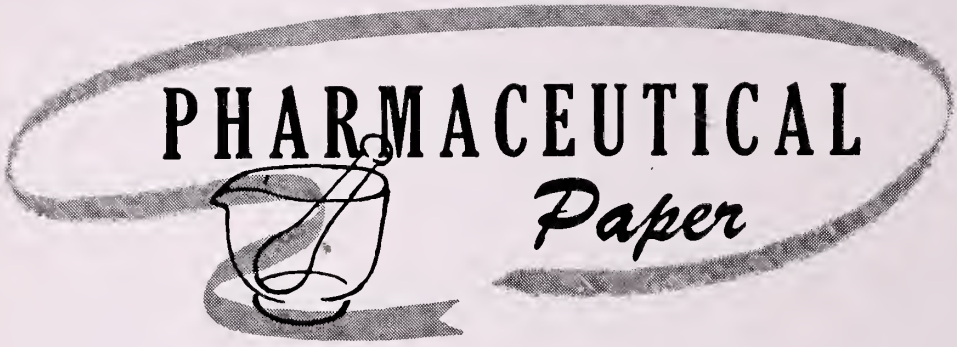
Dr. N. J. Hastetter arrived in Edgemont, South Dakota, late in January to open a practice in that community, starting February 1st.

* * *

Dr. L. C. Shockey, original Pollock "horse and buggy" doctor, was honored by the medical staff of the Mobridge Community Hospital recently by being named an honorary member of the staff. Dr. Shockey has practiced in South Dakota since 1898, and has been retired since World War II.



HAROLD S. BAILEY, PH.D.
EDITOR
Division of Pharmacy
South Dakota State College
Brookings, South Dakota



CHOLESTEROL: A MAJOR MEDICAL ENIGMA*

Part II

Heart Disease: The Number One Killer

Cardiovascular diseases, according to the American Heart Association, cause slightly more than half of all deaths in the United States (based on latest statistics, 1955). There are a number of major cardiovascular diseases, the most important of which are arteriosclerosis, hypertension and rheumatic heart disease. The large majority fall into the first group, and the most important form is known as atherosclerosis.

Dr. Paul Dudley White has made two important observations about the coronary arteries:

"First, they are more subject to change in position than other arteries of the body, and the constant kinking and stretching of the elastic tissue and muscle in their walls may be an important factor of wear and tear. Second, they are supplied with nerves, and very probably are subject to narrowing and widening through nervous influences, though not very much is actually known about this in the human heart as yet." **(Scientific American,** June 1950).

While arterial accumulations may occur anywhere in the body — and they do quite often occur in or near the kidneys, causing nephrosclerosis — they appear more often on the anterior descending trunk of the left coronary artery, about half an inch below the point where it branches off. Why this is has never been explained.

These deposits consist mainly of cholesterol and calcium, just under the thick layer of cells forming the inner surface of the artery. This bulge into the arterial passage will cause varying degrees of obstruction to blood flow as it grows larger.

There is no question that this process (the accumulation of cholesterol and other fatty materials) requires years. It has been speculated that it may start at birth. It usually does not become a dangerous situation, though, until middle age.

Since everybody has cholesterol, the question most often asked is, why do some people develop plaques and others do not? There is yet no accepted answer to this.

* The second in a series of articles summarizing present day thinking on the problem of cardiovascular diseases and lipid metabolism. Material for this article was supplied through the courtesy of Edward Gottlieb Associates. (Part I, Biochemical Considerations, will be found in the January 1960 issue).

When a plaque formation restricts the flow of blood through the left coronary, a collateral circulation develops to compensate for the restriction. Under this condition the patient may live with atherosclerosis, without serious heart damage. However, in time if the restriction becomes worse, it probably will lead to a heart attack and possibly death.

One cause of sudden death in atherosclerosis is coronary thrombosis, where a blood clot trying to pass through the small opening completely blocks off the blood supply.

Evidence that high blood cholesterol levels and atherosclerosis are related begins with the knowledge that in diabetes mellitus, nephrosis, myxedema, xanthomatosis and familial hypercholesterolemia — conditions characterized by high serum cholesterol levels — there is a high incidence of atherosclerosis. Conversely, in thyrotoxicosis — a disease associated with hypolipemia — there is a decreased incidence of atherosclerosis. In idiopathic steatorrhea, with impaired absorption of dietary fats, atherosclerosis is seldom seen.

Cholesterol in the blood is usually combined with other lipids and with proteins in the form of lipoproteins. Various parts and properties of these complexes have been measured and studied in relation to atherosclerosis, but cholesterol measurements have proven as reliable as more complex determinations or ratios.

Atherosclerosis has been induced in a variety of experimental animals by methods affecting the cholesterol-lipid-lipoprotein metabolism. In raising the blood cholesterol, atherosclerotic plaques have been formed in species which never have these naturally. In cholesterol fed chicks corn oil has been shown to have unexplained cholesterol lowering effects on the basis of the fatty acid composition of the oil.

Atherosclerotic coronary artery disease is as old as man. An examination of mummies in Egypt showed evidence of this disease.

Heart Disease and Living Standard

It is revealing that the higher a country's standard of living, the greater the incidence of heart disease; the more prosperous a country is, the greater is its intake of fats. The United States has the greatest incidence of heart disease, and at the same time obtains more calories from fat (mostly the saturated type) than any other nation. Over 40 per cent of our caloric intake comes from fat, while the generally accepted amount is about 30 per cent.

This higher standard of living, and its consequent greater consumption of high-fat foods, leads to wide-spread obesity among our population. Many physicians believe that obesity plays a direct and important role in the incidence of heart disease. This condition is accompanied by cholesterol levels far in excess of what could ordinarily be considered safe. Statistically, then, obese people, depending on the degree, are a greater risk for heart disease than those who are not obese.

(Obesity and overweight are not the same, medically speaking. Obesity refers to an excess proportion of the body weight being made up of fatty tissues; overweight refers to the state of being above a predetermined standard according to age, sex, height and build. Therefore, one can be obese without being overweight, or overweight without being obese. Both these conditions should be avoided for good health.)

Heredity is also thought by some to play an important part in heart disease, for studies have shown an inherited tendency for certain heart ailments.

Smoking, too, has been indicated as a contributory factor in the arteriosclerotic process. Excess cigarette smoking, it is believed by some, causes expansion and contraction of the artery walls over a long period of time. This process possibly causes the arteries to loose their elasticity, thereby contributing to the eventual hardening.

Physical exertion for many years was the villain in the piece, but recent medical opinion tends to encourage physical exercise, even for those who have had heart disease, within moderation, of course. Clinicians believe that exercise strengthens the heart muscle, just as it will any other muscle, hastening to add that extreme exertion could certainly contribute to a heart seizure when the person already has the underlying condition for coronary heart disease.

A word that has come into great prominence in recent years is stress, generally meaning the tensions and anxieties inherent in our modern way of life. Some physicians believe that stress causes hypertension, which in turn damages the heart. Others say not.

Dr. Norman Jolliffe reported on this aspect in the July 1959 issue of **Circulation:**

"Stress is a factor to be considered, particularly the type of stress related to western civilization, urbanization, and prosperity. Old-fashioned stress such as the stress of obtaining food to keep alive, the stress of 'the jungle', the stress of mating or to obtain and keep a desirable mate, the frustrations of parenthood, and the noises of community living have certainly been with mankind ever since he developed a communal life. It is doubtful whether at any previous period of mankind these factors of old-fashioned stress have ever been less than at present. But the types of stress related to that of masses of people moving upward economically with most persons feeling a bounden duty to elevate themselves and their children to a higher economic and social group, the stress of failing to escape from the boom, chatter, and jangle of television, radio, and the telephone — all may represent a newer type of stress to which mankind is making but poor adjustment. Studies showing differences between personality and emotional makeup of people having coronary heart disease and healthy controls have all been done retrospectively. No prospective study along the line has been reported. This type of study should be done.

"Roseman and Friedman have recently attempted to measure the effects of this type of stress on a group of 42 volunteer male accountants. This group was selected because of the unusual phasic variations of their work and its associated deadline. Serum cholesterols and blood clotting times were determined bimonthly and, in 83 percent of the subjects, the maximum cholesterol concentrations occurred at the time of the maximum stress as measured by nearness to income tax deadlines. Blood clotting time was shortened from an average of 9.4 minutes during minimal stress to 5 minutes at the time of maximum stress. The authors could not ascribe the changes in either cholesterol or blood clotting patterns to diet or to changes in weight. The subjects were free-living accountants noted for 'snacks' at maximum work periods. These snacks, usually containing large amounts of saturated fats, could account for the failure to lose weight at maximum work periods, as well as the changes in blood cholesterol and clotting time. Also, all these subjects were on an ad libitum high-fat diet under which condition considerable fluctuations in blood cholesterol levels may occur. It remains to be proved whether or not this type of stress during a constant diet actually does influence the blood lipid levels.

"Old-fashioned stress and strain were certainly greater in England and Norway than in the United States during the World War of 1939-45. Yet there is no sudden separation in the graphs of the mortality rates from coronary heart disease in England and in the United States during the war years to reflect the effect of stress and strain, particularly during the Battle of Britain. There is evidence that in Norway during the German occupation there was a significant decrease in mortality rates attributed to coronary heart disease. One can conclude from this data that stress is not a major factor in coronary heart disease."

By far the greatest attention has been focused on cholesterol, leading to the generally accepted opinion that the best route to attack heart disease is through dietary control. It appears, however, that a growing school of thought believes that all the other cited conditions may also contribute, and that therefore until proved otherwise a person worried about high blood cholesterol should take total precaution . . . giving himself the benefit of doubt in the matter.

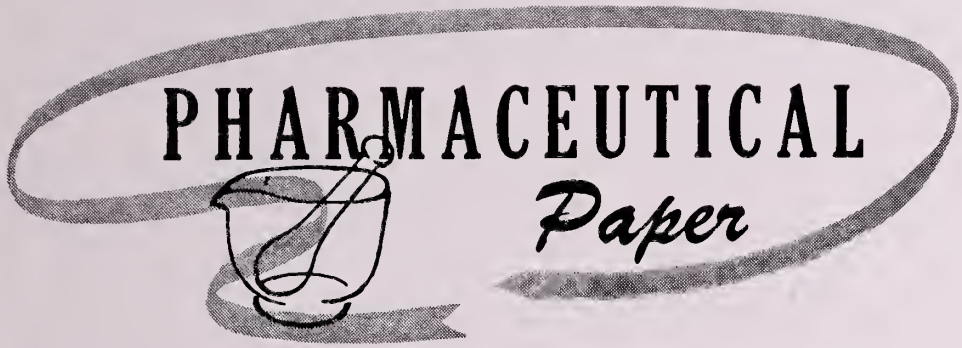
Portrait of the Heart Disease Candidate

Is there such a thing as a heart disease "type" of personality? Can scientists determine who is most prone to heart disease? A study by the Massachusetts General Hospital of coronary patients under 40 years of age revealed this composite portrait of the heart disease candidate:

He is a husky, robust male. His chest, trunk, face and hands are noticeably thick for their length, and he has a lot of hair on his body if not on his head. He was a good athlete in school, and though he's too busy for regular exercise now, he's apt to indulge in strenuous workouts whenever he gets a chance.

He is objective, realistic, matter-of-fact, conscientious and sympathetic enough for women to call him "sweet." But underneath he is always in a hurry. He walks like a man who knows where he's going and is eager to

(Continued on Page 105)



ANIMAL HEALTH PHARMACY*
Part XII

Kenneth Redman, Ph.D.**
Brookings, South Dakota

Insect Attractants

In previous discussions, many methods for the control of insects were indicated, including the use of chemicals, i.e. insecticides, to kill them. Some insecticides are not as effective as they might be however, because they repell the insects they are intended to kill, primarily because of odor. In such cases an attractant included in the insecticide formulation, especially for poison baits, is indicated. Another indication for insect attractants is in insect traps.

Some insect attractants have been obvious to even the casual observer for a long time, i.e., syrup or other sweets for certain ants and flies, putrid meat for blow flies, and white light at night for many species of flying insects. Other insect attractants have been discovered, however, only after diligent search. Some attractants are apparently specific for certain species of insects. The known useful insect attractants will be discussed.

*The twelfth of a series of articles concerning the role of the pharmacist in animal and plant health.

**Professor and Head of the Department of Pharmacognosy, Division of Pharmacy, South Dakota State College.

Metaldehyde (Metacetaldehyde, "Meta"), $(C_2H_4O)_4$, occurs as colorless crystals insoluble in water, soluble in benzene and chloroform. Flammable, it is subject to depolymerization to acetaldehyde, especially in soldered tin plated containers. It is toxic to warm-blooded animals and highly toxic to molluscs, including snails and slugs. A common slug and snail bait formulation includes bran and 2.5 to 4 per cent metaldehyde, to which calcium arsenate may be added.

Isoamyl salicylate (isoamyl o-hydroxybenzoate), $C_{12}H_{16}O_3$, is a colorless to yellowish liquid insoluble in water, soluble in alcohol and organic solvents. It is used to attract tobacco hornworm moths to traps.

Methyl eugenol (4-allyl veratrole), $C_{11}H_{14}O_2$, is a colorless liquid insoluble in water, soluble in alcohol and the organic solvents. It attracts the male oriental fruit fly.

Geraniol (3, 7-dimethyl-2, 6-octadien-1-ol), $C_{10}H_{17}OH$, is a colorless liquid, insoluble in water, soluble in the organic solvents. It is used with eugenol 10:1, or with anethole and eugenol as a bait in traps painted a primary

yellow for Japanese beetles. The traps are only about 25 per cent effective.

Formaldehyde (Formalin, Methanol), H. CHO, is a colorless gas with an extreme irritation to mucous membranes. Soluble in water, alcohol and ether, a 37 per cent aqueous solution is official in the U.S.P. A dilute solution mixed with dilute syrup has been used as a fly bait for house flies.

Anethole (p-propanylanisole, anise camphor, 1-methoxy-4-propenylbenzene), $C_{10}H_{12}O$, is a colorless or nearly colorless liquid at temperatures above 23°C. It crystallizes at 21°C. Insoluble in water, it is soluble in alcohol and the organic solvents. It attracts coddling moths.

Syrups, honey, molasses, sugar and saccharin are often employed singly or in combination as attractants in poison baits. Fruit, vegetable, and root-maggot flies have been killed in many parts of the world with arsenical baits with molasses and water. Sweet-eating ants may be controlled with poison baits made attractive with sugar or syrup. Moths whose larvae are destructive to crops have been baited with molasses or saccharin in water with some stomach poison such as sodium arsenite, sodium fluosilicate or tartar emetic. Fermented syrups are attractive to some moths and butterflies.

Putrid meat is an effective bait in fly traps, often trapping flies by the bushel. It is also attractive to protein-eating ants.

Artificial light attracts many species of flying insects at night. An ordinary incandescent lamp light is effective, but blue light is considered the best. Either light may be used in insect light traps. Yellow light is considered a relatively effective light for visibility that is least attractive to insects.

Sound waves have been found to attract certain insects. Male mosquitoes are attracted to traps with a vibration in the air comparable to that made by female mosquitoes in flight.

Insect Repellents

Insect repellents are used to give plant and animal hosts an objectionable, or at least unattractive, odor. Only rarely is a repellent effective against all kinds of pests. Many are quite specific for certain insect species. With few exceptions, repellents are only mildly toxic to insects or other animals. Repellents have been classified by some authors according to their intended use: (1) barriers for crawling insects, (2) chemicals for feeding insects, and (3) those intended to stop insects from laying eggs in certain places. Some repellents have been known and used with a moderate degree of success for a long time. Only the better known highly effective repellents will be discussed here.

Bisbutenylene tetrahydrofurfural (2, 3, 4, 5-bis [ie. delta ^{2}-butenylene] -tetrahydrofurfural, butadiene-furfural copolymer, MGK Repellent 11), $C_{13}H_{16}O_2$, is a pale yellow liquid insoluble in water, soluble in solvents. It is compatible with most insecticides. It is an effective repellent against roaches, mosquitoes, and stable and horn flies. It is relatively non toxic to rats. A 0.2 per cent formulation, which includes pyrethrins and a synergist in an oil base, is recommended as a spray for dairy cattle.

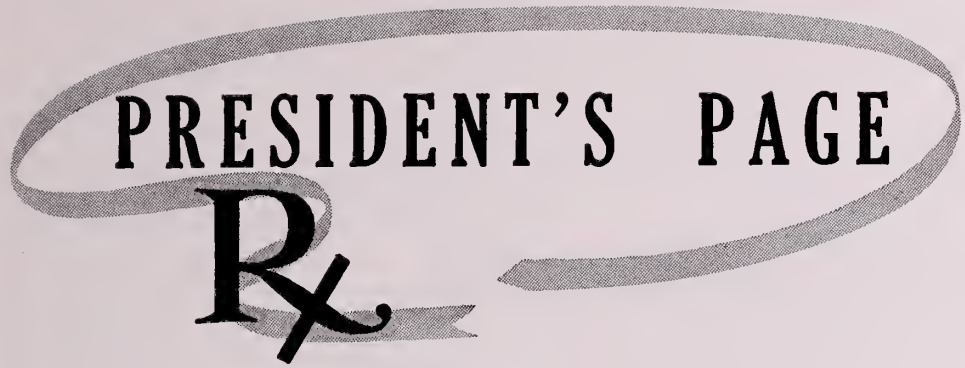
Butoxypolypropylene glycols (Crag Fly Repellent, Experimental Miticide 7), C_4H_9 [$OCH(CH_3)$, CH_2]n, consist of several grades, dependent on the mean molecular weight. The grade recommended as a fly repellent has a mean molecular weight of about 800, while the product used as a miticide has a molecular weight of 300-400. The repellent grade is a clear liquid slightly soluble in water, soluble in organic solvents. It is a solvent for DDT, toxaphene, methoxychlor, chlordane, lindane and derris extracts. It is recommended to be used as a 10 per cent in oil solution or as a 10 per cent emulsion as a fly repellent for dairy cattle. It is a synergist for pyrethrum.

Butopyronoxyl, U.S.P. (Dihydropyrone, Indalone, 2, 2-Dimethyl-6-carbobutoxy-2, 3-dihydro-4-pyrone), $C_{12}H_{18}O_4$, is a yellow to pale red aromatic liquid, insoluble in water, soluble in chloroform, ether, alcohol and glacial acetic acid. Introduced as an insect repellent during World War II, it is particularly effective against biting flies when applied to the skin. The pure product is essentially harmless to warm-blooded animals, but it may give a slight stinging sensation to some persons. It is generally used as an ingredient of Compound Dimethyl Phthalate Solution, U.S.P.

Dibutyl succinate (Tabatrex, Di-n-butyl succinate), $C_{12}H_{22}O_4$, is a colorless liquid insoluble in water, soluble in most organic sol-

(Continued on Page 104)

PRESIDENT'S PAGE



Fellow Pharmacists:

In the short span of one lifetime pharmaceutical education has advanced from a six month training course to a five year college curriculum. The Division of Pharmacy at South Dakota State College will start the five year program in September, 1960.

At first this may seem to some to be unnecessary, inconvenient, and expensive. On closer scrutiny it will be found that ten years of study has shown it impractical to condense the vast amount of material in the modern pharmaceutical curriculum into four years. We have used a four year curriculum for nearly 30 years. During that span has occured history's greatest changes in living conditions and treatment of disease. Pharmacy has been a part of these changes and we must be well educated to be a part of the advancements that lie ahead.

The Pharmaceutical Survey of 1948 pointed out the varied professional areas open to the graduate pharmacist. They vary from retail, through hospital, government, manufacturing and research to teaching. The Survey also published a list of 11 "Objectives of Pharmaceutical Education," as follows:

1. Selecting, screening, and graduating those students possessing the technical abilities, personal character, and social outlook required for the practice of the profession of pharmacy.
2. Preparing students to procure, develop, prepare, preserve, standardize, test, and dispense substances and articles used in the diagnosis, treatment, and prevention of disease.
3. Developing ability in students to utilize properly the **Pharmacopeia of the United States,** the **National Formulary, New and Nonofficial Remedies,** and other recognized works on drugs.
4. Grounding students in the principles and practices of organizing and administering a pharmacy.
5. Making students fully conscious of the ethical standards to be met by the pharmacist.
6. Qualifying students to cooperate with members of the other health professions and to consult with them; to furnish accurate, objective, and scientific information to physicians and members of other health professions concerning drugs and their action.
7. Preparing students to provide professional services to the public appropriate to the basic functions of pharmacy in its role as a health profession.
8. Equipping and stimulating students to contribute to the profession by participating in its various organizational, literary, teaching, research and other activities.
9. Providing students with an adequate foundation for graduate work in the various subjects of the curriculum.
10. Preparing students to assume the responsibilities of citizenship benefiting professionals.
11. Enriching the life of the students through greater understanding and appreciation of the culture, values, and problems of our civilization.

Close study will show that a five year span is needed to encompass the educational material necessary to meet these objectives. The five year curriculum of the Division of Pharmacy, South Dakota State College, proposes a required 250 credits, the additional 50 credits to be divided between general education, pharmacy and approved electives.

I heartily endorse the addition of such courses as oral communication, correspondence and government as required subjects. As a pharmacist we are expected to be qualified to fill prescriptions and advise our customers according to their needs. In matters of business, club membership or church attendance, we are representatives of a profession. As such we must expect to be called on to take part in affairs of our community. An adequate education can help us do a good job of these tasks.

The additional scientific credits will allow extension of pharmacy courses to cover present and new discoveries in the field of medicine. The extra electives will give students time to pursue lines of special interest.

All of this, along with recent South Dakota Board of Pharmacy regulations requiring one year of apprenticeship prior to examination, should lead to a well educated graduate pharmacist, meeting all the objectives of pharmaceutical education. Such people, we know, will keep pharmacy a part of the future.

Willis Hodson



The following open letter to the Honorable Senator Estes Kefauver, Chairman of the Senate subcommittee examining drug pricing, is being printed in its entirety.

The Honorable Senator Estes Kefauver
Senate Office Building
Washington, D. C.

Dear Sir:

I feel that I would be remiss in my duties to the profession of pharmacy if I did not state my feelings concerning your forthcoming investigations into the prices of drugs.

Though the original intent of the subcommittee was to investigate prices at the manufacturer's level, retail pricing of prescriptions will undoubtedly be a major field covered by the investigation. For this reason the following statements are presented in defense of retail pharmacy.

The nation's seventy-six colleges of pharmacy educate young people for the ethical pursuit of the **profession** of pharmacy. The scope of this education is such that the modern pharmacist is sufficiently versed in matters of health that he can and does act as a consultant to the physician. Because of the financial investment in his training and because of his role as a member of the health team, he is entitled to charge a **professional service fee** for the prescription that he dispenses. A majority of pharmacists will not charge the service fee if the price of the medication is above a certain figure in order to hold the price of the prescription at a minimum. Consider also that the pharmacist, and the physician, are equally liable in case an error is committed even though the error may have been perpetrated by the physician.

You will undoubtedly find during your investigations that the average gross margin on prescriptions is close to 33 1/3% on the expensive miracle drugs and around 40% on lower cost items. Numerous surveys on prescription pricing have been conducted by individuals in the field of pharmaceutical economics and by drug houses. These surveys are published and available for reading by the public. This is a strong indication that the profession of pharmacy is not afraid to inform the public on the cost of medication. It also indicates that we feel that our method of prescription pricing is fair and that profits are not excessive.

The remainder of this letter constitutes my own personal protest to the forthcoming investigations. I understand that letters from elderly persons subsisting on social security and complaining about the high cost of prescriptions prompted you to make the investigation. It is indeed unfortunate, especially for our elder population, that you chose to investigate drugs rather than attempting to increase social security benefits through legislation. A 69 year old widow receiving $33.00

per month from social security cannot even afford to purchase such a lowly item as a bottle of aspirin tablets.

Have the members of your subcommittee determined, through investigation, the amount of money expended by the average American family on drug items? You will be surprised to learn, if you have not already, that it constitutes a "drop in the bucket" in the average family budget.

Since the rising cost of living has also been a significant factor prompting the investigation, why not investigate **all** sources of this rising cost? Consider first the cost of food and clothing items which are being held at an artificially high level by government price supports! Consider also the five dollar service call charge by the T.V. repairman, the two dollar haircut, the $3.50 per hour charged for the services of the plumber, brick layer, carpenter, etc.! (Note comparison of consumer price indexes elsewhere in this editorial section — Editor).

I implore you to remember during your investigations that you are dealing with an ancient and honorable **profession,** not a group of laborers, tradesmen or racketeers! Pharmacy in America has been laboring for the past 150 or more years to elevate itself to its present professional status. Your investigation of this profession will undoubtedly destroy all of these efforts in the space of a few scant months.

During your investigation be sure to ask the defendant manufacturers how much they spend on research. You will find that no other industry in the country is more intent on putting itself out of business through the eradication of disease. Surely they have a right to receive a fair return on such a major investment, though gamble would be a better term to use.

So that you will not lose stature, at least in the eyes of my fellow pharmacists, would you consider refraining from the use of the term "pill" in your press releases and during the investigations? This is a nearly obsolete dosage form of medication having been replaced a good many years ago by the "tablet" and the "capsule."

In closing may I add that I have the utmost confidence that the profession of pharmacy will be exonerated. My only regrets are the irreparable damage that will be done to the profession and a total waste of the taxpayers' money.

I am,

Sincerely,
/s/Norval E. Webb, Ph.D.
Assoc. Professor of Pharmacy

Drugs have risen less in price than most consumer costs. In addition, the effectiveness of new drugs has been greatly increased during this period. Cost of other components in Medical Care such as doctor's fees and hospital rooms have increased substantially more, as has the Housing Index. It seems that

(Continued on Page 105)

DRUG COSTS

An analysis of the following figures places the costs of drugs to the consumer in the proper perspective:

Consumer Price Indexes

(1947-49=100)

	Total Medical Care	Prescription and Drugs	General M.D. Fees	Hospital Room Rates	Food	Housing
1958 (March)	142.3	120.2	138.3	196.4	120.8	127.5
1957	138.0	116.7	134.5	187.3	115.4	125.6
1956	132.6	113.7	128.4	173.3	111.7	121.7
1955	128.0	111.2	124.3	164.4	110.9	120.0
1954	125.2	110.1	119.9	156.8	112.6	119.1
1953	121.3	108.9	116.1	148.2	112.8	117.7
1952	117.2	107.9	113.0	139.5	114.6	114.6
1951	111.1	106.9	108.0	126.9	112.6	112.4
1950	106.0	103.9	104.0	114.6	101.2	106.1

THE MONTH IN WASHINGTON

Overshadowing all other developments from the standpoint of the medical profession was the flat prediction from a high Administration official and key lawmakers that Congress this year would vote some sort of liberalization of the Social Security program.

There was general agreement that Congress would broaden the Social Security plan for permanently and totally disabled persons by removing the requirement that a person has to be at least 50 years of age before receiving such benefits.

However, there were forecasts of even further liberalization. House Speaker Sam Rayburn (D., Texas) said monthly cash benefits also may be boosted. On the other hand, the House leader said he believed a majority of the House Ways and Means Committee were opposed to the disputed Forand bill that would finance partial health care for the elderly through higher Social Security taxes at an estimated extra cost of $2 billion annually. As a result, he said he did not think "there was a great deal of chance for it." But the AFL-CIO and some Congressional backers of the highly controversial bill were urging Congress to approve it this year.

Arthur S. Flemming, Secretary of Health, Education and Welfare, asserted that the Administration is planning to offer a program aimed at assisting needy aged to meet health bills, but gave no details. The official noted that the Administration has firmly opposed the Forand-type approach on grounds it would destroy the rapid progress in meeting the problem through private means. But Flemming, in a speech before the American Association of University Teachers of Insurance, said the Administration has an obligation "to stay with it" until it arrives at a plan.

Congress has extended the Social Security program every presidential election year since 1948, and 1960 appeared to be no exception. Whether or not the issue of medical care for the aged will be included was one of the big question marks early in the session.

Shortly before Congress convened, the Boards of Trustees of the AMA and the American Hospital Association, in a joint resolution, pledged to "mobilize their full resources to accelerate the development of adequately financed health care programs for needy persons—especially the aged needy—" at state and local levels.

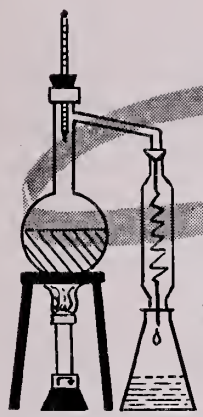
The Boards said Forand-type legislation is "not designed to assist to the needy, since they apply to all Social Security beneficiaries and exclude the majority of needy persons, who are not eligible for Social Security benefits."

Following the action, Dr. Louis M. Orr, AMA President, and three other AMA officials — Dr. E. Vincent Akey, AMA President-Elect, Dr. F. J. L. Blasingame, Executive Vice President, and Dr. Ernest B. Howard, Assistant Executive Vice President — visited Vice President Richard M. Nixon at his Washington Office. They told the Vice President that by the end of this year an estimated 60 per cent of the nation's aged persons who want and need voluntary health insurance will have it.

Mr. Nixon, according to the officials, was "delighted to receive the information and "very much interested" in the program of voluntary health insurance for the aged.

* * *

Physicians who are officers of qualified clinics would be entitled to deduct as business expenses money set aside for their retirement under a proposed regulation of the Internal Revenue Service. The decision climaxed a five-year effort of a group of Montana physicians to secure such tax treatment, and marked an important tax development for physicians who operate clinics. Self-employed physicians continue to be barred from similar tax treatment, though there is legislation before the Senate Finance Committee that would afford them tax deferrals on funds set aside for retirement.



Advances In Drug Research

ADVANCES IN DRUG RESEARCH NEW DEVELOPMENTS IN ANTIBIOTICS REPORTED AT SEVENTH ANNUAL SYMPOSIUM

Five new antibiotics plus significant improvements in penicillin and the broadspectrum antibiotic, tetracyline, were reported at the Seventh Annual Symposium on Antibiotics in November.

Dr. Henry Welch, chairman of the symposium and director of the Food and Drug Administration's Division of Antibiotics, said 22 foreign countries were represented and that the symposium had a larger attendance than in previous years.

Countries other than the United States, which had scientists at the symposium, are Argentina, Austria, Brazil, Canada, Czechoslovakia, Chile, Ecuador, England, France, Germany, Haiti, Italy, Japan, Mexico, Panama, Peru, Poland, Portugal, Scotland, South Africa, Sweden, and Uruguay.

Four special sessions of the conference dealt with the following: pediatrics, venereal disease, dermatology, and methodology for determining the susceptibility of microorganisms.

Among the new antibiotics under discussion were colistin, aspartocin, fervunlin, streprozotocin and rifomycin. New uses were reported on for paromomycin, amphotericin and griseofulvin. Streptonigrin and diasomycin were added to the growing list of antitumor agents.

Seven papers dealt with developments in synthetic penicillin. A new form of tetracycline, demethylchlortetracycline, was the subject of 11 scientific papers.

The sessions opened with a panel discussion of "The Challenge of New Drugs to Our Society."

Representative abstracts of some of the papers follow.

Demethylchlortetracycline

A new broad-spectrum antibiotic effective in significantly lower dosages than its predecessors and active against more bacterial strains, has been described as an "important addition" to the physician's arsenal.

Thirteen medical investigators reported on the new drug, demethylchlortetracycline (DMCT).

Dr. John P. Vineyard, Miss Janet Hogan, and Dr. Jay P. Sanford of the University of Texas Southwestern Medical School, reported on a group of 58 patients suffering from a variety of infections. DMCT, they said, was effective in laboratory studies against more of the bacterial strains commonly causing urinary tract diseases than were previous tetracycline drugs. Among these strains, the investigators said, were **A. aerogenes, Proteus species** and **Pseudomonas aeruginosa,** three gram-negative organisms which tend to be resistant to other tetracyclines.

Additional evidence of the effectiveness of DMCT in stubborn urinary tract infections was offered by Drs. Myron S. Roberts, Harry Seneca, and John K. Lattimer of Columbia-Presbyterian Medical Center, New York; 60% of organisms isolated from their patients, they reported, were more susceptible to DMCT than to tetracycline and in no case was an organism more sensitive to tetracycline. Their comparison showed DMCT to be "a more effective antibiotic."

Harvard University's Dr. Maxwell Finland and Dr. Hans A. Hirsch, and Dr. Calvin M. Kunin of the University of Virginia, outlined studies comparing the antibacterial activity of DMCT in the blood with that of tetracycline following repeated oral doses of both compounds in healthy volunteers. The effectiveness of DMCT against test organisms, they said, was generally superior, striking, and significant.

They stated that DMCT remains in the blood much longer than tetracycline and 48 to 72 hours longer than either chlortetracycline or oxytetracycline. They attributed the new drug's long life to the fact that it is excreted only 43% as fast as tetracycline.

The clinical implication of these findings, the Harvard researchers stated, is that less of the new drug is probably required to obtain an antibacterial effect equal to that given by the older tetracycline drugs.

Reporting consistent and satisfactory response to DMCT among a group of 32 acutely-ill pneumonia patients, Drs. C. James Duke, Robert F. Donohoe and Sol Katz of the District of Columbia and Veterans' Administration Hospitals in Washington, stated that their studies strongly support the published investigations of Dr. Finland. The Washington physicians regarded the 32 pneumonia patients as a "severe challenge to any antibiotic" and reported highly satisfactory therapeutic results from the new drug. Because of its great effectiveness in relatively small doses, they said, DMCT gives promise of overcoming the problem of stomach upset associated with large drug dosages in the treatment of pneumonia.

The cure of venereal diseases by small total doses of DMCT was regarded as "striking" and "noteworthy" by Drs. Milton Marmell and Aaron Prigot of New York's Harlem Hospital. They reported that for the cure of gonorrhea, the required total oral dose of the new drug is almost as small as the required injected dose of tetracycline. For tetracycline, the oral dose is usually twice the injected dose. The physicians reported cures in all but two of sixty-two patients with gonorrhea, lymphogranuloma venereum and donovanosis. The two exceptions had reported new exposures to disease after their treatment.

Side effects of DMCT were found by most investigators to be infrequent and rarely to require discontinuance of therapy.

Two physicians from the Norristown, Pa. State Hospital reported that because of the new antibiotic's slow rate of excretion, it tends to accumulate in patients' blood over a normal five-day course of treatment. Drs. William P. Boger and John J. Gavin found that the germ-killing concentration of DMCT in the blood on the fifth day of therapy was twice as high as after the first day. They estimated that the drug will circulate in the body 72 to 96 hours after dosage is discontinued.

DMCT was found to be twice as active as tetracycline against six of a group of nine species of disease-causing bacteria isolated from infected patients. Drs. L. P. Garrod and Pamela Waterworth of St. Bartholomew's Hospital, London, reported that their study included 275 strains of the bacteria and in no case was the new drug less active than tetracycline. They also reported that a DMCT broth sterilized agar plate colonies of **Staphylococcus aureus.** A chlortetracycline broth of the same concentration failed to accomplish this after fifty hours and a regrowth of the bacteria occurred.

In the treatment of nine cases of brucellosis (undulent fever), Dr. Guillermo Chavez Max of Mexico City reported that all patients have been free of symptoms for two and one-half months following suppression of the disease by DMCT. The new drug has "the advantage over drugs of its same group," Dr. Chavez said, "of being useful at lesser doses and better tolerated." By the twentieth day of treatment, he said, no brucella, the infecting organisms, were demonstrable in the blood of any patient. All other signs of the illness disappeared by the tenth day.

Drs. Calvin M. Kunin, of the University of Virginia, Dr. Finland of Harvard, and Mr.

A. C. Dornbush of Lederle Laboratories, reported tests of the behavior of the drug in healthy volunteers. These confirmed that DMCT remains active in the blood for much longer periods of time than tetracycline, chlortetracycline, or oxytetracycline. In another report, Drs. Sidney Ross, Jose Puig, and Edmund A. Zaremba of Children's Hospital, Washington, D. C., said that the concentrations of DMCT in the blood following single oral doses in children compared favorably with those given by other tetracyclines.

A team of Seattle clinicians said that the new antibiotic worked well among a group of fifty patients with acute respiratory or urinary tract infections, but that at higher dosages of the drug, some nausea and vomiting did result. They reported that most organisms isolated from these patients were more sensitive to DMCT than to other tetracyclines. The study was conducted by Drs. D. M. Perry, G. A. Hall, and W. M. Kirby of the University of Washington.

Dr. Jorge Olarte from Children's Hospital, Mexico City, compared bacteria associated with cases of diarrhea in children at their hospital. DMCT was more active than tetracycline against 26% of the strains in laboratory studies, but Dr. Olarte found that the differences were slight and apparently not significant.

Japanese physicians outlined results of a series of 309 cases of acute childhood infection. They concluded that DMCT produced results as good as or better than tetracycline at one-half the dosage required for the older drug. The group of investigators, as reported by Dr. Ryochi Fujii, found no side effects requiring withdrawal of the drug.

Humatin

World-wide field studies of a new oral antibiotic showed it to be "highly effective" in the treatment of amebiasis and bacillary dysentary. Dr. Kenneth O. Courtney, clinical investigator for Parke, Davis & Company, told of the effectiveness of the new antibiotic, Humatin, in a paper delivered at the seventh annual Antibiotics Symposium.

Humatin is not yet commercially available.

The global studies with Humatin involved more than 1,000 patients. Because of the almost total lack of absorption on oral administration, no side effects were reported by physicians who studied the drug, Dr. Courtney told the conference. While the average course of treatment was five days, investigators reported "marked relief in all symptomatic patients beginning as early as the second or third day."

Investigators working in 12 different countries — Chile, Egypt, England, Ethiopia, Honduras, Mexico, Nicaragua, Panama, the Philippines, Puerto Rico, Union of South Africa and the United States — used Humatin in more than 400 cases of intestinal amebiasis. In addition, the drug was used effectively in the U. S. and England in more than 600 cases of acute and chronic bacterial infections of the intestinal tract.

In the amebiasis studies, the severity of the disease ranged from the chronic cyst passer (the infection is transmitted from person to person by cysts which may be carried by polluted water), through the moderately acute to the very acute type of case. Patients ranged from well-nourished in the higher socio-economic level to the anemic, poorly-nourished patients of low socio-economic level.

General follow up of the cases studied revealed that the majority of patients still were free of the infection two months after therapy was terminated.

Intestinal infections, other than amebiasis, among children and adults here and in England also were treated successfully with Humatin. The majority were individual infections, treated and reported by numerous physicians and hospitals.

Fervenulin and Streptozotocin

Two new antibiotics were reported by scientists in the Research Division of The Upjohn Company at the Seventh Annual Symposium on antibiotics.

The compounds are fervenulin, which in animal studies shows activity as an antitrichomonal drug, and streptozotocin, which preliminary test tube and animal observations indicate has good antibacterial activity against many kinds of disease-causing organisms. It is too early to judge their ultimate usefulness in human medicine even though promising results were obtained in experimental work with animal and test tube trials.

Fervenulin, produced by an actinomycete and isolated from a sample of California soil, appears to be new and different from any of

the known antibiotics available for comparison, according to Clarence DeBoer and Thomas E. Eble, Ph.D., senior authors of the two papers reporting on this drug. They found the compound active against at least 23 types of bacteria, including some which attack plants. In varying concentrations, it also showed inhibitory effect against 16 different types of fungi.

In hamsters and mice, fervenulin was reported to have produced 50 per cent cures against trichomonas infections when administered intraperitoneally at a rate of 3.9 milligrams per kilogram of body weight, a relatively low dosage level.

Preliminary observations indicate that streptozotocin has good antibacterial activity against many kinds of disease organisms, including micrococci, diplococci, enterococci, Pasteurella, Salmonella and Proteus species. Also, it has no cross resistance with 10 other antibiotics already commercially available. This means that organisms which have developed resistance to the older antibiotics are not resistant to streptozotocin.

The cross resistance factor was checked against novobiocin, neomycin, penicillin, celesticetin, chloramphenicol, erythromycin, kanamycin, carbomycin, polymycin and tetracycline.

Derived by fermentation from a soil sample taken at Blue Rapids, Kansas, strepozotocin was reported to be highly effective in protecting infected mice against a wide range of disease organisms.

Coly-mycin

Coly-mycin, whose generic name is colistin, was originally isolated by Japanese researchers. It is being tested and developed in the United States by Warner-Chilcott Laboratories.

Researchers confirmed that the new antibiotic was most effective against gram-negative organisms — those responsible for intestinal, urinary and other infections — such as coli-aerogenes, pseudomonas, salmonella, shigella organisms and the colon bacillus.

The antibiotic was tested successfully against fifty-eight strains of bacteria. Resistance to Coly-mycin was induced only occasionally with difficulty in sensitive bacterial strains.

It was also agreed that Coly-mycin was virtually non-toxic, that when injected, it produced high blood levels quickly, and was quickly excreted in the urine. When taken by mouth, most of the drug concentrated in the intestinal tract, a factor of importance in the management of intestinal infections.

ANIMAL HEALTH PHARMACY—

(Continued from Page 96)

vents. Of low mammalian toxicity, it is an effective repellent for roaches and ants in the household, and biting flies of cattle. Formulations include oleic acid (to prolong activity), a 20 per cent emulsifiable concentrate, and a 2 per cent petroleum distillate spray.

Diethyl toluamide (Delphene, Meta Delphene, **N, N**-Diethyl **m**-toluamide), $C_{12}H_{17}NO$, is a nearly colorless liquid, nearly insoluble in water, soluble in alcohol and many organic solvents. Applied to the skin or clothing, it lasts longer and is effective against a wider variety of biting insects than any other known repellent. It may be slightly irritating to some skins under severe sweating conditions. Contact with eyes should be avoided. It may damage plastic materials slightly and may plasticize rayon clothing. Formulations of 50 per cent Delphene solution in isopropanol are common. Freon 11 and 12 combinations with isopropanol and Delphene are used in bomb-type sprays.

Dimethyl Phthalate, U.S.P. (Dimethyl benzeneorthodicarboxylate, DMP, NTM), $C_{10}H_{10}O_4$, is insoluble in water and mineral oils, soluble in alcohol and most organic solvents. It is a widely used repellent for blood-sucking insects, especially the anopheles mosquitoes and for flies on horses and cattle. It irritates the eyes and mucous membranes. It is commonly used in the form of Compound Dimethyl Phalate Solution, U.S.P.

Ethohexadiol, U.S.P. (Ethylhexanediol, Rutgers 612, 2-Ethylexane-1, 3-diol, ethyl hexylene glycol), $C_8H_{18}O_2$, is a colorless, oily liquid, slightly soluble in water, soluble in alcohol, chloroform and ether. It is inert to clothing, including most plastics. Used to impregnate clothing or applied to the skin, usually diluted with alcohol to decrease viscosity, it is especially indicated for pest mosquitoes. It is commonly used in the form of Compound Dimethyl Phthalate Solution, U.S.P.

CHOLESTEROL: A MAJOR MEDICAL ENIGMA—

(Continued from Page 92)

get there. He seldom takes a vacation, works rather than plays at his hobbies, saves time by talking business at lunch. He looks as if he's in control of himself and the situation, but his wife may report that he falls into violent fits of temper if he is delayed or crossed.

His mother was apt to be more energetic and more ambitious for him than his father.

He has a greater appreciation for the finer things of life.

He drinks and smokes more than most men.

The odds are that he is a rising professional man or business executive who provides well for his family and could pose for a picture of the model father.

He looks and acts ten years older than his age. He may be prematurely wrinkled, grey, or bald — and you get the impression he's worked himself old before his time.

He may have violent nightmares.

Heart trouble runs in his family.

(To be continued)

EDITORIAL PAGE—

(Continued from Page 99)

criticism has been placed on the least important offender against the public's purse.

Over a longer period of time, from 1936 through 1956, the annual increase in the medical care index has averaged 4% compared with 8.5% for hospital care, 3.4% for doctor's fees, 5% for food and only 2% for prescriptions and drugs.

These comparative statistics indicate that the American public is getting full value in its purchases of drugs.

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Rx PHARMACY News

PHARMACY DIVISION GETS $42,653 GRANT

A study of the relation of body protein formation to the process of tooth decay will be conducted at South Dakota State College under a federal grant.

President H. M. Briggs announced that a three-year grant of $42,653 had been received from the National Institute of Dental Research of the U. S. Department of Health, Education and Welfare.

Preliminary studies leading to the grant have been conducted at State College during the past three years on a cooperative basis. Support has come from the South Dakota Pharmaceutical Association, the South Dakota Dental Association and Dr. William Kessler, Brookings dentist, as well as the Division of Pharmacy at State College. These groups will continue to support the new project.

Harold S. Bailey, professor of pharmaceutical chemistry and director of dental-pharmacy research, will be the principal investigator on the project which is titled "The Effects of Norethandrolone on Dental Tissue."

Dr. Bailey pointed out that there have been many studies made on such causes of tooth decay as nutrition and diet, bacteria, heredity and fluorides. However, little has been done previously to study the relation of tooth protein formation to tooth decay.

Norethandrolone is related to one of the male sex hormones, Dr. Bailey explained, but has little of the sex hormone activity while retaining protein-building activity. The question to be studied is whether the drug is instrumental in producing teeth which are more resistant to decay.

The study is concerned with the process of tooth decay, Bailey emphasized, and not with developing or testing a drug which could prevent tooth decay.

The matrix or organic portion of a tooth, as well as the inorganic portion, is known to break down in tooth decay. However, it is not known if the organic matter breakdown follows or possibly causes the formation of cavities.

The study at State College will provide knowledge of the effect of body protein, as produced by drugs, on the formation of teeth and their resistance to decay.

Assisting Bailey in the project will be a research associate, a graduate research assistant and part-time student help.



URINARY STRESS INCONTINENCE

F. S. Stahmann, M.D.
Sioux Falls, S. Dak.

Presented at the Annual Meeting of the South Dakota State Medical Association, June 22, 1959 at Rapid City, South Dakota.

While mild degrees of stress urinary incontinence are more common than generally realized, more severe types of this condition are not common in a gynecological practice. A study by Nemair and Middleton at the University of Utah in 1954 showed that 95% of the freshman women experienced some stress incontinence, but only 5% of these had frequent loss. We all appreciate that it is more common as age and parity increase since pelvic tissue damage associated with childbirth is the commonest etiological factor.

Urinary incontinence with its offensive odor and often present vulvar irritation is a social handicap and women are extremely grateful for relief.

If a woman leaks urine while coughing or sneezing she has stress urinary incontinence. This must be carefully distinguished from the uncontrollable desire to void of urgency incontinence which is most often caused by cystitis or urethritis. It must also be distinguished from the constant leaking of fistulous or overflow incontinence. Each variety of incontinence requires a specifically different treatment, and the commonest cause for failure of operative cures is faulty diagnosis.

Women have no true urinary sphincter. Undoubtedly, if they did have a true sphinc-

ter, correction of urinary stress incontinence might be easier. What then is the mechanism of urinary control in the female? Most writers feel that two factors are important (1) the inherent tone of the urethra itself and (2) the elevation of the bladder neck by the puborectalis muscle.

The female urethra is a muscular tube about 4 cm. in length. Its walls are composed mostly of three layers of smooth muscle with some intermingling of striated muscle fibers. The inner and outer layers are chiefly longitudinal fibers and the middle layer is circular or spiral. It is chiefly these muscular components that give the urethra tone and keep its lumen normally closed.

Probably more important in maintaining continence is the action of the pubo-rectalis portion of the levator ani muscle which keeps the bladder neck elevated. Certainly contraction of this muscle during the act of micturition shuts off the stream and patients with stress incontinence have a weakness in this area which allows the vesical neck to sag and remain lower than normal and the urethra in the area of the bladder neck to become chronically dilated.

In the normal continent women, cystogram examination reveals the base of the bladder above the inferior edge of the pubis. The upper urethra is quite narrow and a posterior urethro-vesical angle is present. During voluntary micturition, the base and neck of the bladder descends, the proximal urethra dilates, descends and rotates posteriorly so that the posterior urethral wall aligns itself with the base of the bladder. The flow of urine is cut off by voluntary contraction of the levator ani muscle and of the striated urethral muscles which elevate the bladder and rotate and constrict the urethra to its original position and size.

Women with stress urinary incontinence have cystograms much like those of the normal continent women while voiding. Her bladder is lower in relation to the pubis and the bladder neck and the proximal urethra is chronically dilated and rotated posteriorly. This permits any rise in bladder pressure to be directly transmitted to the cone-shaped neck of the bladder and proximal urethra allowing urine to be forced into the lower urethra.

While the female has no true vesical or urethral sphincter anatomically, she does have a sphincter mechanism and this lies in the area of the bladder neck and upper portion of the urethra. The main pathological changes present in this area when stress urinary incontinence is present are lowering of the bladder and funneling and dilation of the bladder neck and upper urethra.

The most common cause of stress urinary incontinence is trauma associated with childbirth. Congenital weakness of the tissues of the bladder neck and upper urethra is a less frequent cause and is the usual ethiological factor in young women with this condition who have not borne children. Regressive changes associated with senility is a third cause.

Cure of stress urinary incontinence requires elevation and anterior rotation of the bladder and narrowing of the upper urethra. This can be accomplished without surgery by means of perineal exercises in patients who have adequate musculo-facial bladder and urethral support and who can learn to contract their levator ani muscles. Patients who fail to respond to exercise should be considered candidates for surgery.

The selection of patients having stress urinary incontinence due to relaxed sphincter mechanism of the bladder neck is most important since this is the only group helped by the following surgical procedure. A careful general physical examination, neurological examination, cystoscopic examination and urinalysis is essential to determine the fact that the presence of stress urinary incontinence is based upon a relaxed urethral sphincter mechanism and not upon some other cause. This point is most important. As mentioned previously, we should not confuse stress incontinence with urgency incontinence. Patients with urgency incontinence loose urine if they delay emptying their bladder when it feels full. They usually have frequency and often pyuria. Cystoscopic examination often reveals inflammation of the bladder or urethra. Patients with cystocele may fall into this group since they not infrequently have some cystitis secondary to their residual urine. They may also have an associated true stress incontinence due to relaxation of the bladder neck. Patients who

have histories of neurological disease or physical findings of neurological disease are poor candidates for surgical help and should carefully be excluded. While urinary fistula are not common lesions today, we must keep these in mind when studying a case of incontinence.

Finally the so-called "stress" test devised by Marshall, Marchetti and Krantz should be used for every possible candidate for surgical correction of stress incontinence. The "stress" test consists of filling the bladder with 250 cc of normal saline after which the patient is asked to cough in the prone and standing positions and the presence or absence of incontinence observed. If incontinence is present, the bladder is refilled and two fingers are placed in the vagina on each side of the urethra in the region of the neck of the bladder and upward pressure made to simulate the objective of vesico-urethral suspension. If the patient does not leak urine while upward pressure is applied along each side of the bladder neck we can anticipate a good operative result.

In 1949 Marshall, Marchetti and Krantz reported 50 cases of stress urinary incontinence treated by their simple retro-pubic vesicourethral suspension. They described the preoperative test previously discussed to aid in the proper selection of patients. They reported excellent results in 82% of the cases, improvement in 7% and failure in 11%. Since this time other writers have reported smaller series with about equal success.

Technique of Operation

A No. 24 F. Foley catheter with a 30 cc. bag is inserted into the bladder and inflated. The patient is placed in Trendlenberg position and the space of Retzius exposed through a lower midline incision. Light pressure with a sponge on the top of the bladder and urethra readily separates these structures from the posterior surface of the pubis and recti muscles down to about 1 cm. or less from the external urinary meatus. Three No. 1 chromic catgut sutures are placed at equal distances on each side of the urethra, the needle passing deeply into the vaginal wall to insure a secure hold. These sutures are then sewed directly into the periosteum of the pubes and tied. This lifts the urethra and vesical neck upward. The balloon of the catheter is displaced downward to outline the neck of the bladder and another suture is placed at the junction of the balloon and the catheter taking as firm bites of tissue as possible without entering the bladder. Additional sutures are placed lateral to the bladder neck where the vaginal wall is found sagging and they are also secured to the periosteum of the pubis. More sutures are now placed in the musculature of the lateral and lower portions of the bladder and sutured to the rectus muscles. This further pulls the bladder up into the space of Ratzius. A small Penrose drain is placed laterally on each side of the operative area and the wound closed. The 30 cc. catheter is replaced by a 5 cc. one and the vagina packed with gauze for 24 hrs. Frequently hematuria is present for a day. The catheter is removed in 4 days. The drains on the third.

Materials & Methods

In the four year period, 1955-1958, retropubic vesicourethral suspension was performed on sixteen women with stress urinary incontinence. In fourteen patients the primary complaint was stress incontinence. In two patients undergoing pelvic laparotomies, urinary incontinence was a secondary complaint.

Age and Parity. The youngest patient was 36 years of age, the oldest 74. The average age was 55. All patients except one had borne children.

Previous surgery. Five patients had had previous vaginal operations for stress incontinence. One patient had had a previous vesicourethral suspension.

Vaginal findings. Three patients had well supported anterior vaginal walls. The remaining thirteen had varying degrees of cysto-urethrocele. One patient had extensive scarring of the anterior vaginal wall.

Associated Surgery. Additional surgical procedures were done on eight patients at the time of vesicourethral suspension. Simple appendectomy was performed three times, posterior colporrhaphy three times, total abdominal hysterectomy and bilateral salpingo-oophorectomy twice and ressection of a small endometrial cyst of an ovary on one patient. Vaginal lysis of adhesions about the urethra and bladder was done twice.

Results. We have been successful in following all patients either by recent letter or re-

cent postoperative check. Results are clear cut, being either successes or failures.

Thirteen patients, or 82%, have successful results both subjectively and objectively. They have resumed normal activity and remained dry. Examination by myself or her referring physician reveals no leakage of urine when the patient strains with the bladder full.

Failures. Three patients are therapeutic failures.

One patient, age 60, operated in January of 1957, was continent for four months after surgery and now reports that she had approximately the same degree of stress urinary incontinence that she had before. A urethroplasty had been done for her incontinence in 1949 without help. She had some scarring of the anterior vaginal wall from her previous surgery and I suspect that this may have prevented the urethra and bladder neck from being drawn up against the symphysis as effectively, or subjected the sutures to more stress so that they may not have held.

The second failure is one of postoperative urinary obstruction. Simple vesicourethral suspension was done in October 1957, at age 63, and she has not emptied her bladder completely or spontaneously since. She had a total abdominal hysterectomy and bilateral salpingo-oophorectomy at age 40. An anterior colporrhaphy was done for cysto-urethrocele with stress incontinence in 1953. She had good urinary control for several months after this procedure but following two brief apoplectic-like strokes, each associated with mild hemoplegia of a few weeks' duration, marked stress urinary incontinence returned. Preoperative urological and neurological study was negative. In March, 1958, six months after the vesicourethral suspension, because of persistent urinary retention, she was reoperated and the urethro-vesical suspension taken down. She still does not void. Her bladder and urethra are atonic.

We feel that this failure is due to improper case selection for vesicourethral suspension. The neurological bladder with its loss of expulsive power and or associated atony of the bladder neck — physiological sphincter area cannot be helped by this procedure.

Our third failure was another most instructive case. This patient, age 62, had very severe stress incontinence following removal of a large bladder calculi through the urethra fifteen years previously. In 1948 she had a vaginal hysterectomy and an anterior and posterior colporrhaphy. She remained incontinent after this procedure. In 1956 a retropubic vesicourethral suspension was done elsewhere, with no improvement of urinary control. Preoperative examination revealed considerable dilatation and loss of tone of the urethra and a dense band of scar tissue extending transversely across the anterior vaginal wall which pulled the urethra and bladder neck downward and forward. This scar tissue was divided along each side of the urethra prior to the vesicourethral suspension. Following this procedure, she had good urinary control for about four months after which stress incontinence recurred. The dense vaginal cicatrix also reformed. We felt that this failure was due to the reforming of the vaginal scar tissue which pulled the deep urethra and bladder neck forward and that with more extensive mobilization of the urethra she should have a good result. She was reoperated in December 1958. The urethra was mobilized well throughout its entire length and the dense scar tissue extending across the urethra and bladder excised. The urethra was very thin and adherent to the vaginal mucosa in the area of the vaginal scar and was accidently opened in freeing the mucosa from it. Careful repair was done but a small urethrovaginal fistula has persisted. It seems to be closing slowly. Following mobilization of the urethra and excising the scar tissue another retro-pubic vesicourethral suspension was done. At present, six months later, the patient has fair urinary control, but some urine leaks into the vagina from her fistula when she voids.

Comment

This small series of sixteen women with stress urinary incontinence treated by the Marshall-Marchetti vesicourethral procedure has generally been most gratifying. With proper selection of cases, the results are definitely superior to vaginal bladder advancement operations and urethroplasties which all too often result in a firm, well supported anterior vaginal wall, but persistent incontinence.

Careful preoperative study and selection of cases is most important in avoiding disap-

(Continued on Page 143)



BRONCHIAL ASTHMA WITH SPECIAL REFERENCE TO CHILDREN

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The exact frequency of asthma in the United States is unknown, but it has been estimated that three million persons have suffered from the disease at some time in their lives.[1, 2] Should these estimates be correct, it would indicate that at least one of every seventy-five persons have suffered episodes of paroxysmal dyspnea typical of the disease. Furthermore, it seems certain that the absolute incidence of all allergies is increasing for a variety of reasons including wider dissemination of travel, greater abundances of ragweed plant, increased use of cow's milk in infant feeding, and others.[3, 4, 15] These considerations added to the fact that hay fever and asthma already rank third among chronic diseases, place allergy in proper perspective as a most important problem with which medicine must deal.[6] Less emphasized, however, is the fact that over 60% of allergic problems in adults have their inception in childhood[7] and that about 20% of childhood asthma begins before one year of age.[8] The ultimate hope of the Pediatric Allergist, therefore, is that most allergic problems of adult life will represent neglected opportunities by those responsible for the care of infants and children.

Bronchial asthma is a reversible form of obstructive emphysema involving both lung

fields throughout and relieved, at least early, by sympathico-mimetic drugs.[4] We frequently are admonished to remember the dictum that "all that wheezes is not asthma." It seems equally appropriate to emphasize that "all that wheezes is asthma until proven otherwise." Certainly, based on the incidence of the disease it would be well to consider wheezing dyspnea as asthma until adequate investigation had excluded the diagnosis. A survey of the literature indicates there are at least twenty-six other conditions associated with wheezing, some common and some rare. In order to reduce them to common denominators, bronchial asthma must be differentiated from all the diseases listed in Figure 1.

DIFFERENTIAL DIAGNOSIS OF ASTHMA

1. INFLAMMATORY REACTION AND/OR HYPERSECRETION OBSTRUCTING AIRWAY
   - A. 'ASTHMATIC BRONCHITIS'
   - B. BRONCHIOLITIS -?- AND BRONCHOPNEUMONIA
   - C. BRONCHIECTASIS
   - D. FIBROCYSTIC DISEASE
   - E. PERTUSIS
   - F. OTHERS

2. OBSTRUCTION OF BRONCHI-EXTERNAL OR INTERNAL-
   - A. FOREIGN BODY
   - B. LYMPHADENOPATHY
   - C. MEDIASTINAL TUMOR
   - D. THYMIC ASTHMA ??
   - E. PULMONARY HYDATID CYST
   - F. BRONCHOSTENOSIS
   - G. WEBS, LARYNGOMALACIA, ETC
   - H. OTHERS

3. CARDIAC OR VASCULAR
   - A. RHEUMATIC, LUETIC, HYPERTENSIVE AORTITIS
   - B. PERIARTERITIS
   - C. VASCULAR RINGS

4. PSYCHOGENIC
   - SIGHING DYSPNEA

Figure 1

Patho-Physiology of Asthma

Having pursued the subject of what is asthma and what is not, it now would be profitable to consider the fundamental reasons for the development of this disease. Most accept the concept of an inherited immunologic response-pattern different from the rest of the non-allergic population and that the reagin is the necessary antibody for such a disturbance. Ratner[9] emphasized transplacental sensitization in the origin of the allergic diathesis but most allergists retain the concept of a chromosomal or germinal inheritance. In the case of asthma, this inherited pattern of response permits a chain of events to occur consisting of sensitization by activation of an immune system, and finally resulting in bronchospasm, vacodilatation, and hypersecretion of mucous glands. The events which transpire between the moment of union of antigen and antibody until the bronchi react consist of complex physiochemical changes. Some of these are well understood and many of them are not. In order to approach the treatment of asthma rationally, it seems important to understand these events. They will be discussed in more detail in a later section.

Symptomatology of asthma results from the previously mentioned physiologic changes of the bronchi dependent upon altered immuno-chemistry. While vasodilatation, bronchial spasm, mucosal edema and hypersecretion all play their role in the symptomatology, one or several of these events may predominate in any given attack. Cook[10] shares the opinion of many[11, 12] that bronchial spasm is not an important factor in asthma and that mucosal edema and hypersecretion of mucous glands are far more significant. The effect of epinephrine is said to be due to the beneficial effects on these events rather than upon bronchospasm. Regardless, it still seems likely that one or the other of these basic events may predominate giving rise to different symptomatology, although wheezing dyspnea is common to all.

When bronchial spasm predominates, as I believe it does more commonly in children, the onset is sudden and often severe. It may abate nearly as quickly with the aid of sympathico-mimetic drugs, so quickly, in fact, it is difficult to believe it could be due to anything but bronchospasm. Conversely, when asthma begins slowly, over a matter of hours or days, and is associated with many rales it seems likely that mucosal edema and hypersecretion predominates. This is a more serious problem, responds less dramatically to sympathico-mimetic drugs, and resolves over a period of days or weeks.

Coupled to the purely bronchial changes, decreased intrathoracic negative pressure may decrease return to the right heart. Various arrhythmias also may be noted, par-

ticularly if hypoxia is prominent. Fibrosis and emphysema may lead to pulmonary hypertension and subsequent failure. Pulmonary, subcutaneous, and mediastinal emphysema; atelectasis; chronic bronchitis; and bronchiectasis all may complicate the original pattern of bronchial asthma.

Having inherited a unique, immunologic system, two other factors seem necessary for the precipitation of an attack. The first is the sensitization of the individual and subsequent re-exposure to the antigen setting off a chain reaction of immunochemical events. The second is a group of precipitating factors making the organism more susceptible to attack but having no immunologic action.

Figure 2 illustrates these factors in a manner that I have found helpful to interpret these events. The individual with an inherited predisposition is represented as a gun which, in itself, is harmless. Next, we add a bullet to the gun in the form of antigen sensitization, and nothing happens. This stage compares to the first injection of eggwhite into the guinea pig or the first exposure to ragweed in the human. Reaction occurs only when the trigger is pulled and this occurs upon subseqeunt re-exposure to the antigen assisted by such non-specific destructive factors as infection, barometric and meteorologic factors, strong odors, chilling, fatigue, emotional upsets and others. In other words, unless all factors are present — the gun, the bullet, and the trigger — no allergic reaction will occur and the patient maintains **allergic balance.**

Some allergic individuals inherit a .22 calibre gun, some a .38 and others a .45. In other words, some always maintain a mild type of disease, most a moderate type, and a few a very severe form. All fall into a normal curve of distribution as seen in figure 3. Those with a very mild form do well on minimal allergic management. The majority who are of moderate severity, require a vigorous attack on their problems and the effort usually is rewarded by good control. The few who are severe require all the acumen the physician has at his disposal and the results still may be disappointing. Steroids usually are reserved for only a few within this group, in my opinion.

Developing these thoughts one step further,



I. INHERITANCE.

II. DIRECT ALLERGIC FACTORS.
- I. EXPOSURE TO ALLERGENS.
- 2. ANTIBODY FORMATION.
- 3. MEDIATORS OF ANTIGEN-ANTIBODY REACTION.

III. PRECIPITATING CAUSES.
- I. RE-EXPOSURE TO ALLERGENS.
- 2. NON-SPECIFIC IRRITANTS.
- 3. EMOTIONAL STRESS.
- 4. OTHERS.

Figure 2

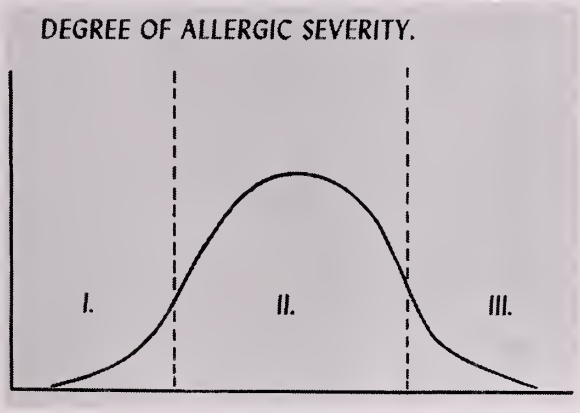


Figure 3

the patients previously categorized according to degree of severity, might be transposed to another graphic interpretation as seen in Figure 4. Asthma in different degrees of severity are represented on the abscissa. The stimuli which contribute to the precipitation of asthma are represented as building blocks. When sufficient volume of exposure occurs asthma will result but the volume required differs with the severity of the disease. There is a good deal of difference in opinion re-

garding this concept based on experimental work[13, 14] but certainly it seems to correlate well with clinical experience. For example, when pollen exposure is heavy, many foods may aggravate the asthmatic who tolerated them at other times of the year. When allergy is uncontrolled, every mild respiratory infection may precipitate an attack while the patient or parent comments enthusiastically over the fact that he can have a cold like anyone else when the allergy is under good control. Certainly, emotional upsets may aggravate asthma when allergy is uncontrolled. I am equally certain that following successful allergic management the

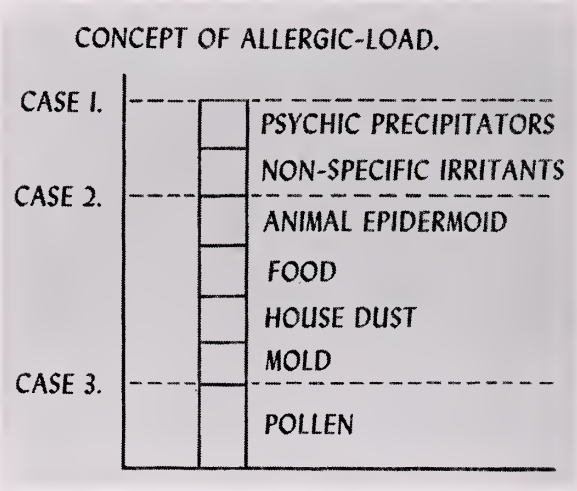


Figure 4

patient can emote all he wishes without precipitating an attack. I accept the rebuttal that the individuals in whom psychological factors are prominent are those in whom the disease **may** be severe and poorly controlled. Furthermore, we must not leave the field of the somatopsychic without confessing that medication, hyposensitization, and the allergist upon whom the patient usually can turn for relief of symptoms, **all** are potent forms of psychotherapy.

Symptomatology

All attempts at text-book description of asthma will be excluded from this discussion. However, I should like to explore some facets of symptomatology and differential diagnosis which are not emphasized sufficiently.

1. The attack of asthma may be preceded by premonitory symptoms hours or days before the onset of audible wheezing. Sometimes these symptoms are distinctive for the individual patient and may consist of rhinorrhea, cough, itching of the skin, abdominal pain, headache, depression, overwhelming sense of fatigue, and others. In the case of the small child the symptoms of rhinorrhea, cough, and slight fever make the distinction from the respiratory infection very difficult. Probably, the mild fever noted particularly in young children without infection represents increased muscular effort and hypermetabolism. With careful attention to this history it is possible to start treatment soon enough to abort many attacks.

2. Persistent cough may precede more typical attacks of asthma by several years. When this occurs audible wheezing by auscultation may or may not be present. It is likely that pulmonary function studies during these episodes would be abnormal, however. Treatment of this type of case should be instituted early before progression of the disease may occur.

3. Audible wheezing disappears long before the return of normal or base-line pulmonary function studies. The timed, vital-capacity test is valuable in this regard, since an abnormal test indicates a continuing need for broncho-dilator and expectorant drugs. Failure to do so invites continuing bronchial obstruction and subsequent infection, emphysema or both. When pulmonary function studies are not available, it would seem wiser to err in giving medication too long than not long enough.

4. The role of "asthmatic bronchitis" or bronchiolitis in relationship to the subsequent development of asthma has been a subject of debate for decades.[15, 16] Interpreting the results is difficult because we are not always sure of the criteria used for diagnosis. However, it seems fair to conclude that many infants and very small children have isolated, acute attacks of wheezing dyspnea on an infectious basis, unrelated to allergic asthma. It is equally apparent that when these attacks are recurrent, especially in the older child, they likely represent true bronchial asthma. Sooner or later, attacks of asthma will occur with less and less evidence of infections although some may continue to be precipitated by them. The physician is in a dilema since it would be as unwise to insist upon an allergic basis for the infectious

group as to delay adequate therapy for the allergic type.

5. Allergic fatigue commonly occurs in conjunction with bronchial asthma causing morbidity far out of proportion to the decrease in pulmonary function. This is an important consideration in our decision to treat bronchial asthma with a comprehensive program rather than by symptomatic therapy alone. Particularly, the young child becomes irritable, unable to concentrate in school, subject to tantrums, or depressed. The profound change in personality occurring with successful allergic management, truly, is rewarding.

Treatment

Symptomatic measures used for the relief of asthma have been enumerated so frequently that I prefer to refer those interested to the excellent papers of Levin[17] and Glaser.[18] I prefer to emphasize that the four aspects of a comprehensive treatment program for asthma begin with the letter S.

1. Special prophylactic measures — must be instituted which will reduce the emergence of asthma (and allergic manifestations in general) in those who inherit the allergic predisposition. Furthermore, once the allergic balance has been upset, measures should be adopted to reduce the frequency and severity of attacks. Glaser[19] proposed that the incidence of allergy might be reduced by measures aimed at a reduction of allergenic exposure to the fetus and newborn. While these proposals have not been accepted uniformly, it seems likely that much good and little harm could come from their adoption. In the event of a strongly allergic family history, he proposes a reduction in the maternal diet of highly allergenic foods, together with food rotation. After birth, a hypoallergenic diet and environmental controls are instituted aimed at a delay of allergic imbalance for as long as possible. With this program, he found a marked reduction in the emergence of major allergic disease.

Once asthma begins, a program of medication is developed and every attempt is made to start treatment at the earliest signs of an attack. In this way some attacks are prevented or minimized. Briefly, this consists of placing the patient at rest in a hypoallergic environment. Following this, bronchodilators, expectorants, antitussive agents, nose drops and possibly antibiotics are started until the danger of an attack passes. Certainly it seems reasonable to make special efforts to institute treatment early before considerable edema and bronchial plugging make treatment more difficult and prolonged.

2. Symptomatic treatment particularly of the acute attack — complete discussion of this phase in management will be avoided except to categorize the various types of medications as in Figure 5.

A. BRONCHIOLAR RELAXATION AND EDEMA
- 1. EPINEPHRINE, EPHEDRINE
- 2. THEOPHYLLINE, AMINOPHYLLIN
- 3. SEDATION-NO MORPHINES-
- 4. ? ANTIHISTAMINES, I.M.
- 5. CORTICOTROPINS AND STEROIDS
- 6. BREATHING EXERCISES

B. BRONCHIOLAR EVACUATION OF MUCOUS
- 1. EXPECTORANTS-IODIDES, IPERAC
- 2. TRYPSIN
- 3. POSTURAL DRAINAGE
- 4. BRONCHOSCOPY
- 5. IPPB

C. SUPPORTIVE MEASURES
- 1. FLUIDS
- 2. VITAMINS
- 3. OXYGEN
- 4. DIGITALIS

D. PREVENTATIVE MEASURES
- 1. REMOVE IRRITANTS-POLLENS, ODORS, ETC-
- 2. CLIMATOTHERAPY
- 3. OCCUPATIONAL CHANGE
- 4. HYPOSENSITIZATION
- 5. BREATHING EXERCISES

E. ANTIBIOTICS AND CHEMOTHERAPY
- 1. ORAL, PARENTERAL
- 2. AEROSOL

Figure 5

3. Specific therapy — consists of the removal or "neutralization" of allergens known or suspected to cause the disease. When these offenders, such as a food or a dog, can be removed or the quantity of exposure reduced, obviously this is the quickest and most effective solution. Those substances which cannot be removed from the environment often may be "neutralized" by increasing the patient's resistance to their exposure. This involves hyposensitization treatment given over a long period of time. Sooner or later this method of therapy will be simplified to one requiring only a few injections yearly but, at present, this is only experimental and not generally available.

4. Somatopsychic approach to asthma obviously is important. However, anyone suffering from a chronic illness, experiencing attacks of suffocating dyspnea, limited in his physical performance, rejected in some degree by family and friends because of the inconvienience of his care or inability to keep up with the others, all will result in psychic disturbance. In no way does this imply that the psyche produced the disease. Because of its profound bearing on the method of treating asthma I feel justified in airing this argument, reminiscent of the one about the chicken and the egg. Reviewing the literature on the personality and family patterns likely to result in asthma, I have found no general agreement. I rather believe there are as many asthma-types as there are persons afflicted with the disease. Furthermore, it is impressive that when the asthmatic is successfully managed allergically, emotions seem to have less and less effect on the course of his disease. When not controlled he may wheeze with the slightest psychic trauma. I am convinced that ascribing a psychic etiology to asthma delays unnecessarily successful allergic treatment. As more is known of physiologic and allergic causes for this disease, less emphasis will be placed on the psyche.

A Physiologic Approach to Treatment

In our discussion of the patho-physiology of asthma, the chain reaction was described which activates asthma. Transferring this information to our thoughts on a rational program of treatment seems possible. Every effort made to control asthma is one directed to some aspect of this chain of events. Figure 6 and 7 depict the chain of events occurring in the allergic reaction and our therapeutic approach is directed to one of the six sites of this reaction.

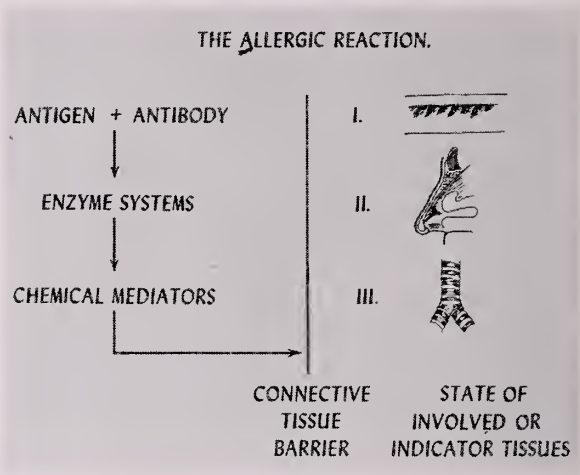


Figure 6

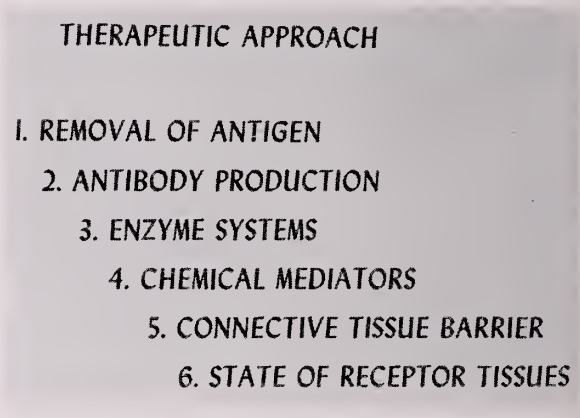


Figure 7

The volume of antigen exposure first must be considered. To accomplish this, it is necessary to avoid foods to which one is senstive, avoid environmental substances, reduce mold exposure inside and outside the home, take vacations in pollen free areas, introduce air conditioning and all similar measures which reduce the volume of allergens entering the body. How far one must go in reestablishing allergic balance varies with the individual patient, the severity of his disease, his personality, and many other factors. Overemphasis of this approach to asthma may result in malnutrition, further rejection by the parent because of the added work-load in maintaining allergy-free environment, undue restriction

on the activity of the patient, and other problems. In brief, the cure may be worse than the disease and common sense dictates how much effort must be applied to this facet of treatment.

2. Antibody production of reagin is so closely related to all other immune mechanisms that one would doubt it would be possible to effect reduction in allergy antibodies without disrupting the entire immune system. However, the effect of these antibodies may be neutralized by the development of blocking antibodies which is precisely what is attempted when hyposensitization injections are administered. Antigen-antibody union is prevented or reduced to the point that the events on the allergic cycle are not activated.

3. Enzyme systems are a necessary part of the allergic mechanism but, so far, little can be done clinically to reduce or alter their effects. In the future, this may be one of the most fruitful approaches to the problems of allergy.

4. Releasing substances such as histamine and serotonin are important agents in the activation of the allergic disease. One might try to reduce the effect of these substances by increasing tolerance of the body (histamine injections) or by blocking their effect with antihistamines. Since they cause some degree of drying and thickening of mucus and since they do not seem to be remarkably effective, the antihistamines have limited usefulness in asthma. Therefore, it seems that histamine release is not the whole answer in bronchial asthma of humans. Little is known of blocking agents capable of effecting release of other mediators which also may be responsible for the disease.

5. Following activation of releasers the connective tissue barrier must be crossed in order for organs, such as the lung, to be effected. ACTH and cortisons may act primarily at this site in preventing the inflammatory effect on connective tissue and in keeping this barrier intact.

6. The effected cells of the lung in asthma, nasal mucosa in pollenosis, and skin in eczema receive the result of this long chain of events and are the sites of response.

The susceptibility of these tissues to the effect of the releasor chemicals may depend upon:

a. nutrition
b. acetylcholine
c. hormonal imbalance
d. chronic irritation and infection
e. many other factors poorly understood.

This is the level of reaction that is treated when most symptomatic measures are applied for the disease. Bronchodilator drugs, liquifiers, bronchoscopy or Ipecac to remove mucous plugs, steroids for antiinflammatory action, antibiotics for infection all are efforts to relieve the disease. Sedatives and psychotherapy also may be included here. It may be seen from the foregoing scheme, that the comprehensive program of management for asthma follows a rational pattern, based upon what is known of the patho-physiology of the disease. It seems reasonable that successful management will be more likely when all of the foregoing factors are attacked than if only a few are considered.

SUMMARY

The frequency of bronchial asthma is emphasized. A review of salient features regarding etiology, physiology, pathology are outlined. Treatment should be viewed from the standpoint of the patho-physiology of the disease and an attempt to correlate those features is suggested.

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PHYSICAL DIAGNOSIS OF MAXILLO-FACIAL INJURY

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The purpose of this paper is to emphasize the application of physical examination to the precise determination of injury in patients with maxillo-facial trauma. This purpose refutes the popular misconception that x-ray of facial bones is the first and most helpful diagnostic tool available to the examiner. Actually, good physical examination will yield the surgeon more accurate information without delaying emergency treatment, and place x-rays of facial bones in its correct field — that of offering confirmatory and supplemental information.

Examination of the patient with maxillo-facial trauma begins as all examinations, with an evaluation of the general condition of the patient. Shock **must** be recognized and the cause determined with indicated measures instituted immediately. Brain or cervical cord injury, frequently associated with the types of impact causing maxillo-facial injuries, must be ruled out. If CNS injury cannot be immediately deleted, observation takes precedence over active maxillo-facial reconstruction.

Partial or complete airway occlusion, or direct pulmonary injury, frequently occurs in patients with maxillo-facial injury, and just as frequently is the cause of poor general condition of the patient when first seen. A patent airway must be the surgeons primary

concern. Subsequently he must avoid forcing contaminated material into the lacerated soft tissues or subarachnoid space. This is accomplished by administering oxygen and anesthetic gases through an endotracheal tube or tracheostomy only.

The associated injuries and conditions discussed above must be recognized and corrected as they represent the primary fundamental pre-requisite to a good maxillo-facial examination.

The regional examination of the patient with facial injury should always begin with inspection and palpation of the calvarium, forehead and scalp. Injuries of this area are easily missed if the examiner is prone to proceed directly with the area of grossly apparent injury. At this time examination of the tympani by otoscope, the pupils and eyeballs by direct vision, and nasal content for cerebrospinal fluid, should be done. Serosanguineous discharge should alert one to the possibility of basal skull fracture and modify the plan of management accordingly.

Fracture of the anterior wall of frontal sinus and superior orbital ridge is often obscured by associated hematoma or emphysema in the subcutaneous tissues. This impediment to examination can usually be overcome by anchoring the calvarium with one hand and palpating the orbital ridge between the thumb and index finger of the other hand. At the same time, with the calvarium still immobilized with one hand, the bridge of nose is tested for mobility due to fracture. The medial and inferior orbital margins are then palpated with the index finger for irregularity indicating nasomaxillary fracture in the first mentioned quadrant and recessed maxilla or displaced zygoma fractures in the inferior orbital quadrant.

The lateral orbital margins are examined between index finger and thumb with two points in mind. First, mobility of the bone of the lateral orbital ridge is present when direct, small area impact results in a chip or semi-lunar fracture fragment of this structure. Secondly, the zygomatico-frontal suture line is widened, or irregular, in displaced fracture of the zygoma. Comparison with the characteristics of the contralateral suture line will lend a high degree of specificity to this diagnostic point. Further, the degree and direction of displacement of the fractured zygoma can be very accurately estimated by comparing with the palpating finger the degree and direction of irregularity present at the inferior orbital ridge, malar arch, and zygomatico-frontal suture lines. This observations is only dependable, however, after examination of the maxilla proves that this bone is not displaced as a unit. At this point it is also important that the examiner be not impressed by the absence, presence, or degree of associated diplopia. Diplopia per se is not a dependable criterion for diagnosis of displacement, or conversely its absence a measure of the integrity, of the orbital floor in the first week following trauma. Neither is the absence of diplopia during the early postoperative period an assurance that anatomic reduction has been accomplished.

Visual examination of the nose from full-face, profile and end-on aspects is the next region for attention. Symmetry of nostrils and luxation of nasal septum should be checked. Supplemental palpation will inform one of nasal, nasomaxillary process, and anterior nasal spine fracture.

The oral cavity must be carefully explored by direct vision and palpating finger. Dental mal-occlusion empirically commands the examiner find fractures to account for the abnormality. Open-bite and posterior displaced mandible suggest ramus or condylar fractures. Prognathic mal-occlusion of mandible may be the first hint of a recessed, impacted maxilla. Pre-existent prognathism can usually be confirmed by history from patient, family or photographs.

Dental fractures should be recognized and recorded at this time. A record of fractured, diseased or absent teeth is invaluable when planning surgical reduction and immobilization of facial fractures. The mouth should be examined so completely that the surgeon is satisfied no fragments of teeth or dentures remain embedded in the soft tissues.

The examining fingers next survey the entire available mandible within the mouth covering both lingual and labio-buccal surfaces of ramus, body and arch. The posterior border of mandibular ramus is palpated at the same time from the exterior. Bone irregularity or mobility is easily recognized throughout the mandible proper. Fractures of the coronoid and condylar processes however, frequently must be diagnosed by pal-

pable, localized hematoma or point tenderness since crepitation in fractures of these sites is frequently not demonstrated. Experienced palpation of the temporo-mandibular joint, malar tubercle and external auditory canal will add to ones diagnostic information in regard to fractures of mandibular condyle, malar arch and auditory canal or temporo-mandibular luxation.

Before extensive digital exploration of the cheeks and floor of mouth for palpable foreign bodies, the integrity of hard and soft palate are checked and the examining finger is continued to the nasopharynx and pharynx. Bimanual examination of the retrotonsillar fossa offers further information about the ramus of mandible. At this time the integrity of base of skull and upper cervical vertebrae can be checked by cautious palpation. As previously suggested, the lacerations of oral soft tissues may now be explored. The pharynx is empty of fingers so that any bleeding caused by this examination can be immediately suctioned away. All fragments of prosthetic devices or dentures should be saved. A denture may be repairable for use as a splint or knowledge of the shape and content of a fragment may aid in locating it in x-rays later.

Examination of the maxilla is begun by checking the teeth for abnormal mobility and displacement. Fracture of the alveolar ridge, producing a semilunar fragment containing a few teeth, is frequently overlooked. Following this procedure, and hard palate and pre-maxillary segment is rather forcefully checked for mobility. The incisive fossa is carefully palpated for evidence of horizontal or vertical fracture lines. The finger then passes to the anterior antral wall. Pressure against this portion of maxilla produces crepitation when zygoma fracture is present. A semicircular edge of zygoma is palpable here when recessed maxilla has occurred. A horizontal ridge is frequently palpable in this area when transverse fracture of maxilla exists. Abnormal mobility of part or entire maxilla is demonstrated by grasping between thumb and index finger of right hand while left hand holds calvarium steady. This test is then repeated with left hand fixing bridge of nose between index and middle fingers while left thumb and fifth finger overlie the respective zygomatico-frontal suture lines. A little practice with these tests will readily reveal to the examiner which of the various middle-third facial fractures exists. Examination of the bone structures is now concluded by palpating the inferior margin of malar arch with one finger in the mouth while the opposite hand assists externally.

Evaluation of soft tissue injuries begins with observation of location of lacerations and contusions. Is any salivary structure involved? Is lacrimal system injured? Is soft tissue missing? Are there any narrow bands or flaps of skin with less than optimal blood supply? Do all facial muscles function? If not, which laceration crosses the related branch of facial nerve?

Sensory loss should be checked over the frontal area when lacerations cross this structure. Infraorbital nerve section may be a complication of zygomatic or maxillary fractures and the expected area of anesthesia is easily demonstrated. It should be remembered, however, that contusion frequently produces anesthesia locally for a variable period of time. All lacerations must be explored completely. This should only be done, however, under ideal conditions with general anesthesia in the operating room at the time of surgical correction of the diagnosed injuries.

In conclusion, physical diagnostic methods applicable in maxillo-facial injury have been outlined and a few points of importance presented. The use of these methods as a basis to obtain early, accurate diagnostic information, is emphasized. The unfortunately popular tendency for the diagnostician to proceed immediately and depend completely on x-ray studies for diagnostic purposes is scorned.

BRONCHIAL ASTHMA WITH SPECIAL REFERENCE TO CHILDREN—

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HORMONE THERAPY IN OBSTETRICS AND GYNECOLOGY

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Hormones are prescribed more frequently for obstetric and gynecologic patients than for any other major group of patients. Although endocrine therapy is indicated for many conditions, there are also many for which hormones are employed but are of no real value. As new hormone preparations are developed and as endocrine physiology becomes understood better new approaches to the use of endocrines become necessary. Therefore, frequent review of present thinking concerning such therapy seems worth while.

It is important to keep in mind that the reproductive organs of the female are only a small portion of the human endocrine system. Disturbances in endocrine glands anatomically far removed from the genital organs may have a profound effect on reproductive functions. Likewise, reproductive hormonal dysfunctions may affect other organs and the general health of the patient. Any endocrine study or treatment, therefore, must be directed toward the patient as a whole individual rather than toward a certain symptom or organ.

As in all fields of medicine, an accurate diagnosis is essential before proper therapy can be instituted. This is especially true in

certain abnormal bleeding conditions for which premature hormone therapy, without adequate investigation, may confuse the diagnosis or even delay the discovery of a malignant lesion.

The physician may well be confused by the great number of endocrine preparations available. Most physicians find it practical to become well acquainted with the effects, indications, administration, reactions and contraindications of a few good preparations and they generally limit their prescriptions to these well-understood compounds.

Before discussing the employment of hormones for obstetric and gynecologic conditions, I shall briefly review the hormones commonly used in such therapy.

The Commonly Used Hormones

Estrogen. — Estrogen is considered to be the true female sex hormone. It is responsible for the distribution of adipose tissue in the female and thus for the attainment of the characteristic female contour. The development to adult size and configuration of the uterus, tubes, vagina and vulva, as well as the functional activity of these organs, is dependent on the presence of estrogen. This hormone is important in the growth and development of the female breasts, stimulating the growth of the duct system in particular. It also stimulates the growth of pubic and axillary hair. The general endocrine balance of the body is influenced by the effects of estrogen on the pituitary gland and possibly through direct effects on other endocrine glands. The physiology of the body is altered further by other effects of this hormone, such as that of retention of water, sodium and nitrogen and that of vasodilation of the vascular beds. In addition, skeletal maturation and epiphyseal closure are thought to be hastened by estrogen.

Estrogenic substances are produced in the ovaries by the theca cells of the follicle and the corpus luteum. The placenta also produces estrogenic substances in quantity and a limited amount is produced in the adrenal glands. Natural estrogens are steroids (fig. 1). The three natural estrogens found in the human being are estradiol, estrone and estriol. Estradiol is believed to be the primary ovarian hormone and is the most active physiologically. Estrone is regarded as a degradation product of estradiol. Estriol, the least active physiologically, is found in the urine

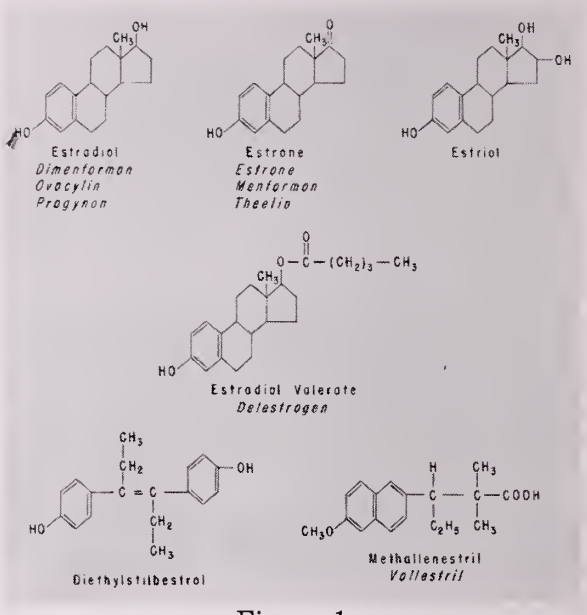


Figure 1

Fig. 1. Chemical structure of typical estrogenic substances. Trade names of common commercial preparations are listed under each compound.

in large amounts during pregnancy. Estradiol valerate is an ester of the natural estrogen, estradiol, that exerts a prolonged effect on injection into the body.

Diethylstilbestrol is one of several artificial estrogens used commonly in hormone therapy. This inexpensive compound, while possessing strong estrogenic activity, causes nausea and vomiting in some patients when employed in high doses.

Methallenestril is an orally effective synthetic estrogen compound that is generally better tolerated than diethylstilbestrol.

Conjugated estrogenic substances are partially purified mixtures of estrogens derived from natural sources and biologically standardized. These compounds are well tolerated by most patients.

When estrogen therapy is indicated, the oral route of administration should generally be employed. Oral estrogens are as effective as parenteral estrogens, are more easily administered, and are more economical for the patient in terms of time and money.

Progesterone. — It has been frequently said that estrogen is the hormone of the woman in that it assures the development of the genital and mammary apparatus, and that progesterone is the hormone of the mother, as it is indispensable for reproduction. Progesterone acting on the estrogen-stimulated uterus induces characteristic progestational changes in the endometrium in

preparation for implantation of a fertilized ovum. The progestational endometrium, under the influence of progesterone, furnishes adequate nutritive conditions for nidation and retention of the ovum and maintenance of the pregnancy. The pattern of uterine motility is modified by progesterone which causes slower contractions and reduction in tonicity. This hormone is also largely responsible for the alveolar development of the breasts. Progesterone has been shown to be thermogenic, and its ability to cause an increase in basal body temperature has been used as a measure of luteal function, and as one of the indications of ovulation.

Progesterone is produced in the ovaries by the granulosa cells of the corpus luteum. It is also produced in large quantities by the placenta and in small amounts by the adrenal glands.

During recent years a number of synthetic compounds have been shown to exert a marked progestational effect. Similarity in chemical structure between the steroids progesterone and testosterone led to the discovery that certain derivatives of testosterone, as well as of progesterone, have progestational effect (fig. 2).

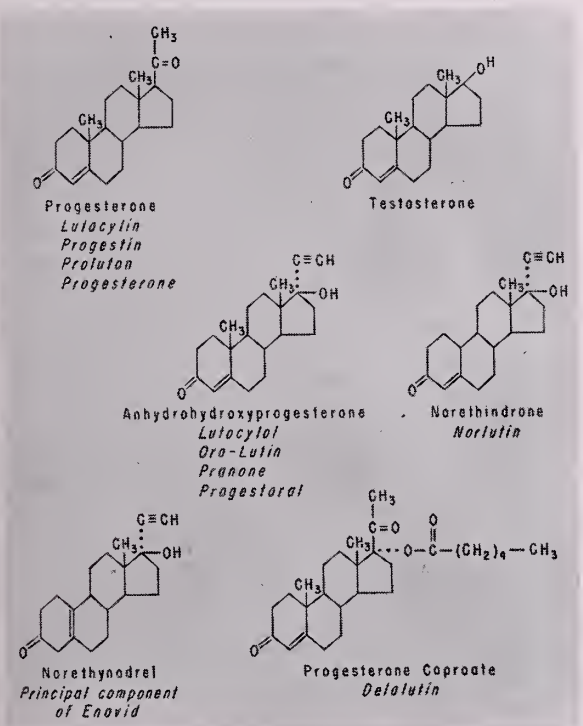


Figure 2

Fig. 2. Chemical structure of typical preparations of progestogen compared with that of testosterone. Common commercial trade names are listed under each preparation.

Anhydrohydroxyprogesterone, or ethisterone, is one of the older synthetic steroids that is effective when administered orally. A dosage several times the parenteral dose of progesterone is required to produce a comparable progestational effect.

Norethindrone is a potent, orally effective synthetic progestogenic compound.

Norethynodrel is also a synthetic steroid that is clinically effective as a potent, progestational substance for oral use. Enovid, a commercial preparation containing norethynodrel, also contains a small amount of estrogen. Administration of enovid is associated with a relatively high incidence of nausea and vomiting. Prolonged continuous administration of norethindrone or norethynodrel may produce pseudodecidual endometrial changes which may be confused on pathologic examination with those found in pregnancy or even with malignant changes.

Hydroxyprogesterone caproate is an esterified derivative of naturally occurring progesterone. This compound has a prolonged progestational action that may persist for 1 to 3 weeks after a single intramuscular injection.

The main advantage of these newer progestational compounds is their ease of administration. For patients requiring long-term therapy, the advantages of oral administration are obvious, as is the advantage of the prolonged effect of the parenterally administered caproate ester. However, some evidence indicates that the androgenic effects of some of these newer compounds is greater than that of progesterone.

Gonadotropins. — Two types of gonadotropins have been found in human beings. The one of pituitary origin is referred to as "pituitary gonadotropin," and the other of placental origin is called "chorionic gonadotropin."

Pituitary gonadotropins through their action on the ovary are thought to be responsible for the growth, development and function of the follicle and corpus luteum, as well as for ovulation and the ovarian production of estrogen and progesterone.

Chorionic gonadotropin is excreted in the urine during pregnancy in increasing amounts until the sixtieth or seventieth day of gestation. The titer then falls gradually and is maintained at a low level during the

last 5 months of pregnancy. The main action of chorionic gonadotropin is to prolong the secretory function of the corpus luteum.

Although several commercial preparations of gonadotropic hormone are available, little success has attended the employment of these preparations in the human female. This is true of preparations of both pituitary and chorionic origins. The use of these preparations has been further complicated by the tendency in the human to the rapid development of antihormones.

Oxytocin. — The one pituitary hormone that has proved to be of great therapeutic value in obstetrics is a hormone of the posterior lobe, oxytocin. This hormone elicits rhythmic contractions of the uterine musculature and increases the frequency and tonicity of existing contractions. It also affects the lactating breast by causing contraction of the myo-epithelial elements surrounding the alveoli and thus stimulating "milk let-down."

The chemical structure of oxytocin has been determined[3] and the hormone is now produced synthetically. It is therefore available commercially both as the partially purified, active, natural oxytocin principle (pitocin) and as the synthetic oxytocin (syntocinon). Clinical studies have revealed that the reactions and results following administration of these two preparations are identical.[1, 2, 6]

Oxytocin is commonly employed for the induction and stimulation of labor, in the management of the third stage of labor, and in the treatment of postpartum hemorrhage due to uterine atony. The detailed use of this hormone for these conditions is beyond the scope of this presentation.

Relaxin. — Relaxin is present in the serum of pregnant women and in the blood of many other mammals. It contains a physiologically active component that relaxes the ligaments of the symphysis pubis in the guinea pig and inhibits uterine contractions in some animals.

Its role in human beings is unknown. Early claims that administration of relaxin was of value in the prevention of premature labor are now doubted. Some evidence suggests that this preparation may cause softening of the cervix during pregnancy, and, therefore, may have some therapeutic value, when combined with other measures, for the induction of labor.[7]

Other Preparations. — Other endocrine preparations are sometimes of value in obstetrics and gynecology, although these preparations are not considered primarily as therapeutic agents for the reproductive tract. These preparations include androgenic compounds, adrenocortical preparations and hormones of thyroid origin.

It is not possible to review all uses of hormonal preparations in obstetrics and gynecology, but an attempt will be made to review briefly some of the common conditions for which endocrine compounds are employed.

Uses in Obstetrics

Sterility. — The old maxim that says, "in the presence of regular ovulatory menses, there is no endocrine therapy for sterility," still holds generally true today. Although on occasions cyclic therapy with estrogen and progesterone seems helpful in re-establishing ovulatory cycles in "oligo-ovulators," no specific hormone therapy is known at present that will cause ovulation in the nonovulating woman.

One of the most helpful hormones in the treatment of infertile women is that of the thyroid gland. Internists usually dispute the value of the gynecologist's use of thyroid for infertile patients with a basal metabolic rate of -10 to -15 per cent without other findings of hypometabolism. However, most gynecologists recommend thyroid therapy for patients with a basal metabolic rate less than 0 when infertility is associated. Although determinations of protein-bound iodine and of uptake of radioactive iodine may be normal in these patients, and their hypometabolic state may be difficult to prove conclusively, every gynecologist probably has seen many patients for whom elevation of the basal metabolic rate to 0 has been associated with more regular menses and increased fertility.

Threatened and Habitual Abortion. — Endocrine therapy for the patient who is threatening to abort, or who aborts habitually, is controversial. Controlled studies are difficult to obtain. The great majority of patients who note vaginal bleeding or spotting in early pregnancy do not abort regardless of treatment or lack of treatment. In some the fetus may no longer be living, and the pregnancy

already may be doomed to failure by the time the first vaginal bleeding is noticed. Good results in the treatment of threatened and habitual abortion have been reported with vitamin therapy, sedatives, rest, hormone therapy, psychotherapy and no treatment.

For the patient threatening to abort for the first time hormone therapy seems of doubtful value.

Investigation and treatment of patients who abort habitually should begin before conception occurs. The patient's general health should be evaluated and any anatomic or pathologic abnormality of the genital tract should be discovered then. Any bleeding or defects of blood clotting, dietary deficiencies, abnormalities of thyroid function, or any problems of emotional or psychiatric nature also should be evaluated and treated.

If the patient's general health is good and no obvious cause can be found for the repeated abortions, endocrine therapy should be considered. Ideally, this is begun as soon as pregnancy is diagnosed and serves as a supplement to other general measures, such as proper diet, vitamins, rest and adequate emotional support. The hormone of choice is progesterone or one of the newer progestational agents. The progestin is given in an attempt to aid implantation and growth of the fertilized ovum and development of the placenta. It is hoped that the additional progestational hormone will help maintain the pregnancy during the early weeks until the placental production of this hormone becomes adequate.

Various plans are advocated for administration of the progestational preparations for habitual abortion. One satisfactory plan calls for giving hydroxyprogesterone caproate intramuscularly in a dose of 250 mg. once or twice a week. Others have preferred norethindrone or norethynodrel in a dose of 10 mg. daily. Such treatment is usually continued for the first 12 to 16 weeks of pregnancy.

Recent evidence indicates that at times some progestational agents may have an androgenic effect on the fetus if administered to the mother during the early weeks of pregnancy.[10] The congenital anomalies sometimes found after administration of progestins consist mainly of abnormalities in the external genitalia of female infants such as an enlarged phallus with or without verying degrees of fusion of the labioscrotal folds. These anomalies are rare, even in infants of mothers who have received large doses of progestins over a prolonged period of pregnancy.

Pregnancy in Diabetics. — The overwhelming majority of obstetricians consider that treatment with sex hormones as advocated by White and associates is not indicated for the pregnant diabetic patient. Most, therefore, agree with Reis that "no form of endocrine therapy yields better results than does the combination of careful diabetic management, good obstetrical judgment and meticulous pediatric care . . . ."

Suppression of Lactation. — A variety of effective plans for hormone therapy are available for suppression of lactation in the recently delivered patient. Estrogens and androgens alone, and in combination, have been shown to be effective. These hormones are most helpful if treatment is begun immediately after delivery.

Programs for administration of estrogens, which are effective, include giving diethylstilbestrol by mouth in doses of 5 mg. three times daily for the first 3 postpartum days, twice daily for the next 2 days, followed by 1 mg. daily for 5 additional days. Side reactions, including uterine bleeding, have been minimal when this program has been employed.

Recently a compound containing 180 mg. of testosterone enanthate and 8 mg. of estradiol valerate per milliliter (deladumone 2X) has been demonstrated to be effective in the suppression of lactation if given intramuscularly as a single dose of 2 ml. immediately after delivery.[8] This preparation is active for several days following administration.

Uses for Gynecologic Conditions

Vaginitis in Immature Girls. — Prepubertal nonspecific vaginitis and the so-called atrophic vaginitis that occur in young girls before the onset of menstruation respond well to local estrogenic therapy. This local therapy may be given each night as a vaginal suppository, or as an application of one of the estrogen creams. Even though the vaginitis usually clears within 10 to 14 days, the local applications of estrogens should be continued every other night for at least another

14 to 21 days. Systemic reactions are usually minimal from this program.

Dysfunctional Uterine Bleeding. — Dysfunctional uterine bleeding, sometimes called "functional uterine bleeding," has been variously defined. Most physicians consider it to be uterine bleeding that is not related to gross organic disease of the genital organs. The diagnosis, therefore, is usually made after other causes of bleeding have been carefully excluded. Dysfunctional uterine bleeding may occur at any time during the reproductive years but is more common in the early years following the menarche and in the climacteric or menopausal years.

At least one uterine curettage is indicated in almost all instances of dysfunctional bleeding to establish an accurate diagnosis and as a therapeutic measure. Young unmarried girls under the age of 20 years with abnormal vaginal bleeding may be safely treated as having dysfunctional bleeding without a uterine curettage, provided that the bleeding is not too heavy and that it responds rapidly to medical management. The endometrium obtained at uterine curettage should be carefully studied to determine the phase of the menstrual cycle in which bleeding occurred and to find any abnormalities, such as hyperplasia or irregular shedding. It is important to note that dysfunctional bleeding is not associated with failure of ovulation in all cases and, therefore, that the bleeding may be from the endometrium in either the proliferative or secretory phase.

In true dysfunctional uterine bleeding, treatment is aimed at controlling the symptoms on a temporary basis while waiting for a spontaneous cure. With almost all forms of conservative treatment the cure rates obtained for each age group are the same, namely, 80 per cent for pubertal patients, 50 per cent for mature patients, and 30 per cent for menopausal patients.

In the dysfunctional bleeding of young girls at puberty the main concern is the heavy bleeding and loss of blood rather than irregularity. It is, therefore, important to stop the hemorrhage as rapidly as possible. For hemostasis, estrogens are the preparations of choice. When bleeding is heavy, one of the conjugated estrogenic substances (premarin) may be administered intravenously in a dose of 20 mg. This is usually sufficient to control the uterine bleeding within an hour. If necessary, the same dose may be repeated every 4 hours. After control of the initial bleeding in these young girls, estrogens should be administered by mouth daily in doses sufficient to maintain adequate hemostasis. One of the conjugated estrogenic substances for oral use is usually the preparation of choice because all are well tolerated, even in high does. Diethylstilbestrol is also effective but tends to cause gastrointestinal symptoms if given in quantity. Oral administration of estrogenic substances should be continued in gradually decreasing doses for approximately 25 days after the hemorrhagic episode. Progesterone in doses of 50 to 100 mg., given intramuscularly on the twentieth day, or one of the progestins for oral use, such as norethindrone or norethynodrel in doses of 10 mg. daily for the last 7 days, seems to be effective in making the withdrawal endometrial shedding more complete. The oral doses of estrogens and progestins should be repeated once or twice in a similar cyclic manner before observing an untreated cycle in anticipation of cure.

Following uterine curettage, the mature or premenopausal patient with dysfunctional bleeding should be observed without hormone therapy. If abnormal bleeding rapidly recurs, treatment with endocrine preparations is indicated. Regulation of bleeding often can be achieved by the regular periodic administration of a progestational compound alone. In other instances, both estrogens and progestins will be required on a carefully planned, cyclic-dosage schedule to regulate the uterine bleeding. A typical schedule using these preparations might call for the oral administration of conjugated estrogens in doses of 1.25 mg. three times a day or of diethylstilbestrol in doses of 1 mg. three times a day for 25 days, with the addition of norethindrone in doses of 10 mg. a day, or ethis-eighteenth to the twenty-fifth day of the menstrual cycle. Bleeding usually occurs within 5 to 7 days after medication is stopped. Cyclic therapy is best repeated for two or three cycles before a cycle without therapy is observed.

If the mature or premenopausal patient with dysfunctional bleeding has required re-

peated curettages and constant regulation of her menses with exogenous hormone, more radical treatment such as hysterectomy should be considered. This is especially true if the patient has completed her reproductive activities or is obviously infertile.

Endometriosis. — Although several plans of hormone therapy, including treatment with increasing doses of estrogens, androgens and more recently both estrogens and progesterones,[4] have been advocated for endometriosis, none have met with any uniform or practical success.

Dysmenorrhea. — Patients with severe dysmenorrhea not relieved by simple analgesics and antispasmodics can usually be relieved by the production of anovulatory cycles unless their pain is caused by a definite gross lesion. Oral use of conjugated estrogens in doses of 1.25 mg. three times daily, or of diethylstilbestrol, 1 mg. three times daily from the fifth through the twentieth day of the cycle is usually sufficient to suppress ovulation. Withholding the exogenous hormone then should result in painless bleeding. This treatment, used intermittently for two or three menstrual cycles, is helpful in providing the usual patient with an occasional respite from her pain and in giving some patients a chance to make better psychologic adjustments. Many physicians view complete relief of severe dysmenorrhea with anovulatory cycles from such treament as indicating that the patient would benefit from presacral neurectomy.

Menopause. — Probably more symptoms are erroneously attributed to the menopause than to any other condition. Vasomotor instability producing the well-known hot flush or hot flash is the only symptom that is convincingly related to the declining ovarian activity of the menopause. Other nonspecific or psychic symptoms, such as nervousness, headaches, fatigue, depression, weeping, unpredictable shifts in mood, insomia, weakness and excessive worrying, are common between the ages of 35 and 45 years but are not necessarily related to the loss of ovarian function. Prolongation of the menstrual cycle is common in women approaching menopause and a diminution in the menstrual flow may be expected. However, excessive bleeding is not a feature of the menopause. Menorrhagia, a marked shortening of the interval between menses and intermenstrual bleeding should never be dismissed as "due to the menopause" without adequate investigation to rule out cancer.

The management of the patient with the menopausal syndrome begins with an accurate diagnosis. A careful history with confirming evidence of decreased ovarian function, such as atrophic vaginal and uterine changes or increased urinary excretion of gonadotropins, is usually sufficient to confirm the diagnosis. The severity of symptoms should be carefully evaluated. The great majority of women do not have sufficient symptoms to consult a physician. Many more are relieved to hear an adequate explanation of the menopause, and then, realizing that their symptoms are physiologic and are not serious or permanent, prefer no treatment. Patients with occasional hot flushes, noted especially when under emotional stress, will often obtain good relief from these minor disturbances with mild sedatives taken intermittently as required. Others with nervousness and anxiety find the tranquilizers, such as meprobamate, especially helpful for both their excitability and their mild to moderately severe hot flushes. Some patients with chronic fatigue and depression obtain relief with small oral doses of a mild stimulant, such as a combination of dextro-amphetamine and amobarbital (dexamyl).

Although estrogens are used in the specific substitution therapy of the vasomotor symptoms of menopausal women, such treatment has disadvantages and should be given only when necessary to relieve severe symptoms. One of the constant problems with women receiving exogenous estrogens is the threat of uterine bleeding. This may occur with continuous or cyclic therapy, or even with intermittent administration of small doses of these compounds. Once abnormal menopausal or postmenopausal bleeding occurs, it is the physician's duty to be certain it is not caused by a neoplasm, as malignant lesions are common in this age group. Although estrogens have long been suspected by some as a possible etiologic factor in genital or breast cancer, there is no definite proof that administration of estrogens can cause cancer in humans. Estrogens, although helpful in postponing hot flushes, are not specifically useful

for the nervousness, anxiety or depression common in the menopausal years.

Estrogen therapy is indicated for the menopausal patient with frequent and severe hot flushes if sedatives or tranquilizers fail to give adequate relief. Oral preparations, such as conjugated estrogens, or diethylstilbestrol, should be given in sufficient dosage to relieve the hot flushes. These hormones are best administered in a cyclic fashion for 3 weeks, followed by 1 week without therapy. Once the symptoms are controlled, an effort should be made to decrease the dose gradually over successive cycles. The aim should always be toward discontinuation of the hormone therapy as soon as symptoms permit.

Androgen or combinations of androgen and estrogen have been recommended by some physicians for the treatment of menopausal symptoms. Androgenic preparations seem inferior to estrogens because of their tendency to cause masculinization in menopausal women even when given in relatively small dosage.

A common problem in menopausal and postmenopausal women is atrophic vaginitis. This condition can best be treated with the local application of estrogen suppositories or creams. Daily vaginal administration of one of these preparations for 4 weeks followed by intermittent administration of the preparation for 1 week each month is usually sufficient to maintain an adequate vaginal epithelium and relieve the symptoms of atrophic vaginitis.

The preoperative administration of estrogen in vaginal suppositories or creams to postmenopausal patients helps to develop a better vaginal mucosa before plastic operations for cystocele, rectocele or prolapse. These preparations also seem to facilitate healing when given during the postoperative recovery period.

COMMENT

Although there are many valid indications for hormone therapy in obstetric and gynecologic conditions, care must be taken to avoid misuse of hormone preparations. Abnormal vaginal or uterine bleeding must be thoroughly investigated before endocrine therapy. Hormone therapy is rarely indicated in the management of the menopause.

(Continued on Page 142)

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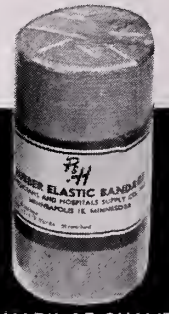
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COUNCIL MEETING
Sunday, January 17, 1960
Marvin Hughitt Hotel
Huron, S. D.

The meeting was called to order at 12:30 P. M. by Chairman Dr. R. H. Hayes. Roll call showed the following members present: Drs. R. A. Buchanan, C. Rodney Stoltz, C. J. McDonald, A. P. Reding, A. A. Lampert, Magni Davidson, E. J. Perry, J. J. Stransky, M. C. Tank, L. C. Askwig, Paul Hohm, P. P. Brogdon, N. E. Wessman, T. H. Sattler, J. D. Bailey, R. H. Hayes, Harold Lowe, E. A. Johnson, and Mr. John C. Foster, executive secretary.

Dr. Tank moved that the reading of the minutes of the previous meeting be dispensed with as the minutes have been published in the South Dakota Journal of Medicine. Dr. Buchanan seconded the motion and it was carried.

Dr. Stoltz explained the work of the Committee on Revision of the Constitution and Bylaws. He suggested that any comments on suggestions for further changes be sent to him. Dr. Reding moved that the Council authorize publication of the proposed revision of the Constitution and Bylaws twice in the South Dakota Journal of Medicine prior to the meeting of the House of Delegates in May, as provided in the present Constitution. Dr. Buchanan seconded the motion and it was carried.

Mr. Foster reported on the progress of the building and the progress of the funds being raised by loans from physicians in the State. Dr. Hohm moved that $3500.00 be transferred from the South Dakota Journal of Medicine surplus to the Building Fund. Dr. Johnson seconded the motion and it was carried. Mr. Foster explained the balance now showing in the VA account and how it accummulated. Dr. Sattler moved that the VA account be closed and the amount transferred to the Building Fund. Dr. Davidson seconded the motion and it was carried.

Mr. Foster spoke briefly on the new Medicare provisions and called attention to the information contained in the agenda. No action was taken.

Mr. Foster discussed the work done so far on the Relative Value Fee Study. A discussion of this project followed. Dr. Stransky introduced the following resolution: "Whereas, the House of Delegates of this Association, at its 1959 annual meeting accepted in principle the relative value study, and,

Whereas, the House of Delegates further recommended that the Prepayment and Insurance Committee review suggestions in this regard and submit to the Council a final completed relative value study,

It is moved that the Council transmit to the Prepayment and Insurance Committee, the suggestions of the Fee Advisory Committee, and others, and request the Prepayment and Insurance Committee to render a final completed relative value study to this Council on or before May 1, 1960. Dr. Brogdon moved acceptance of the resolution. Dr. Stoltz seconded the motion and it was carried. Dr. Stoltz moved that the resolution be amended to read "on or before April 1, 1960." Dr. Davidson seconded the motion and the amendment was carried. Dr. Stoltz moved that the executive office be instructed to transmit copies of the final relative value study as soon as possible to the District after the meeting of the Prepayment and Insurance Committee. Dr. Sattler seconded the motion and it was carried.

Mr. Foster explained the Personnel and Office Function survey. Dr. Lampert moved that the survey be referred to the Executive Committee, with the request that they return it to the Council, with recommendations, at the next Council meeting. Dr. Wessman seconded the motion and it was carried. Dr. Sattler moved that Dr. Lampert be invited to meet with the Executive Committee and participate as a member in their deliberations. Dr. Davidson seconded the motion and it was carried.

Mr. Foster reported on the hiring of a trained continuity writer to write public service announcements for the Radio Broad-

cast Committee. As soon as the material is completed, it will be referred to the Radio Broadcast Committee for approval and then distributed to the radio stations for a thirteen week public service series. No action was taken on this matter.

Mr. Foster reported on the request from the Maricopa County Medical Society for a drive for funds for Dr. Thomas Dooley and his work in Laos. Dr. Stoltz moved that the material be referred to the District Societies, by letter, for whatever action they wish to take on an individual basis. Dr. Sattler seconded the motion and it was carried.

Mr. Foster read a letter from Dr. Will Donahoe requesting the Council to authorize funds to send a physician to the White House Conference on Children and Youth. Dr. Reding moved that Dr. J. D. Bailey of Rapid City be sent by the South Dakota State Medical Association to the White House Conference on Children and Youth at Association expense. Dr. McDonald seconded the motion and it was carried.

Dr. Lampert reported on the Interim AMA session which was held in Dallas. He suggested that the material in the AMA Handbook on Veterans Hospitalization be referred to the Veterans Administration Affairs Committee. He also suggested that we attempt to get the Home-Town Care Plan back in operation in South Dakota. Dr. Lampert moved that the matter be referred to the Executive Committee and that they attempt to reinsate this program. Dr. Brogdon seconded the motion and it was carried. He suggested that the section of the AMA Handbook on Guides for Medical Care in Nursing Homes and Related Facilities be referred to the appropriate committee of the Joint Council. He suggested that the information on Indigent Care be forwarded to the chairman of that committee. He suggested that a specific committee be authorized to handle all negotiations with Federal agencies. The Prepayment and Insurance Committee has acted in this capacity in the past. Dr. Sattler moved that the Prepayment and Insurance Committee be asked to act in this capacity in the future. Dr. Stoltz seconded the motion and it was carried.

A discussion on the section of the Handbook on Medical Disciplinary Committees followed. Dr. Stransky moved that this section of the Handbook be sent to the Grievance Committee, with an expression from the Council that they should obtain what information they can on the subject in an attempt to set up a yardstick that can be used to evaluate the level of medical care on a state-wide basis. Dr. McDonald seconded the motion and it was carried.

Mr. Foster reported on the activities of the Committee on Aging in setting up a Joint Council to Improve the Health Care of the Aged. A meeting was held in December with interested organizations participating. Dr. Davidson moved that the Council authorize the South Dakota State Medical Association to enter into such a Joint Council. Dr. Tank seconded the motion and it was carried. It was suggested that this Joint Council conduct a survey to determine the number of aged in the State, the number of medically indigent, the insurance coverage of the aged, what the particular needs of these groups are now and will be in the future. It was suggested that the survey be completed prior to the legislative session, prior to the Presidential Conference in 1961, and also work with the Governor's Committee in every way possible. Also the survey should be completed before appropriations are set for the Governor's budget, so information will be available.

Mr. Foster explained the proposed Grievance Committee conference to be held with surrounding North Central States. Dr. Buchanan moved that the Council authorize expenditures up to $50.00 to help defray expenses of this proposed meeting. Dr. Reding seconded the motion and it was carried.

Mr. Foster discussed the California booklet which was published for public relations purposes, and suggested publication of such a booklet in South Dakota. Dr. Stoltz moved that the Council authorize that such a booklet be drawn up and a dummy copy be submitted to the Council for approval at the next meeting. The booklet to be of such nature, as to be appropriate for physicians waiting rooms. The estimated cost of publication should also be submitted to the Council. Dr. McDonald seconded the motion and it was carried.

Mr. Foster discussed a letter from Mr. Harold Diers concerning a group life insurance program. Dr. Lampert moved that the Committee on Medical Economics return to the Council a resume of the insurance programs that the Diers agency sells in South

Dakota; and also whatever other information they have from other insurance companies selling group life insurance plans. Dr. Askwig seconded the motion and it was carried.

Mr. Foster discussed the program of the School Health Committee in proposing a uniform health examination form for all schools in South Dakota. Dr. Stoltz moved that the Council authorize Dr. Warren Anderson to proceed with consideration of a standard form and to approach the State Health Officer and Director of State Department of Public Instruction for their cooperation in printing and distribution of the standard form. Dr. Brogdon seconded the motion and it was carried.

Mr. Foster read the following recommendation from the Committee on Medical School Affairs: The Committee on Medical School Affairs recommends that the Council continue financial support for the awarding of two medical scholarships in the amount of $100 each to a freshman and sophomore medical student to be awarded in March, 1960. Dr. Stoltz moved the acceptance of the resolution by the Council. Dr. Tank seconded the motion and it was carried.

The second recommendation from the Committee on Medical School Affairs was read by Mr. Foster as follows: The Committee on Medical School Affairs recommends that the Council appropriate a sum of $50.00 to defray in part the expenses of the South Dakota student delegate to the annual meeting of the Student American Medical Association which usually is held in May. Dr. Reding moved that the resolution be accepted. The motion was seconded by Dr. Stoltz and was carried.

Mr. Foster read a recommendation to the Council from the Committee on Legislation on the Coroner's Law which read as follows: The Committee on Legislation recommends to the Council that contact be made by the State Medical Association with the Bar Association aimed toward cooperative consideration of revision of the South Dakota Coroner's Law. Dr. Hohm moved that the recommendation be accepted. Dr. Stransky seconded the motion and it was carried.

Mr. Foster read the following recommendation from the Committee on Legislation to the Council: The Committee on Legislation recommends that the Council authorize a letter to be formulated and sent to every physician in the State encouraging two things, — 1) contributions to the political party of his choice; and 2) active support of candidates for political office who, in his opinion, have the right philosophy toward government. Dr. Stoltz moved that the Council accept the recommendation. Dr. Davidson seconded the motion and it was carried.

Mr. Foster discussed the manual which has been sent out by the AMA which outlines a program of legislative action. Dr. Stoltz moved that the Council approve the program suggested by the American Medical Association and that such a program be entered into and implemented by the State Association. Dr. Tank seconded the motion and it was carried.

Dr. Stransky discussed a Colorado resolution concerning automobile design as a safety factor and how to get manufacturers to heed such resolutions. Colorado is asking the support of our Traffic Safety Committee for HR1341 which lists certain specifications for passenger vehicles purchased by the Federal government. They are requesting that letters be sent to our Congressmen and Senators urging support of this legislation. Dr. Stoltz moved that since this bill has been reviewed by the Traffic Safety Committee and approved, that the Council authorize the Association to proceed with such suggested support, without awaiting another Council meeting, which would be too late to be effective. Dr. Buchanan seconded the motion and it was carried.

The meeting adjourned at 3:15 P.M.

MEDICAL SCHOOL AFFAIRS COMMITTEE MEETING
SATURDAY, JANUARY 16, 1960
Marvin Hughitt Hotel
Huron, S. D.

The meeting was called to order by Chairman Dr. C. B. McVay, Yankton. Present were Drs. McVay, Warren Jones, R. C. Jahraus, Ronald Price, W. H. Saxton, and F. R. Williams. Also attending were John C. Foster and Dean Walter Hard of the University Medical School.

Dr. Hard gave the following report on activities at the Medical School.

School of Medicine January 16, 1960

1. Bids will be opened later this month for the construction and equipping of the research wing on the present medical building. A set of plans are included that one may visualize the addition to the building. It is to be recalled that this is being financed by equal appropriations from both the State and Federal Government in the amount of $228,000.00. The wing will be attached to the west end of the present building. It is expected to relieve a very critical shortage in space for three of the departments in the medical school.
2. Contributions from physicians and the laity for support of medical school activities are considerably above the level of the past year. This is revealed in the following figures.

The American Medical Education Foundation, donations through only eleven months:

73 in-state physicians	$3,574.50
23 out-of-state physicians	532.50
Districts of Medical Auxiliary	329.00
TOTAL	$4,436.00
Estimate for December	2,000.00
Estimate TOTAL	$6,436.00
Contributions for 1958	3,942.33
Increase over 1958	$2,493.67

In addition to the above a total of $3,553.50 was contributed to several loan funds, scholarship funds, memorials, etc.

The above **does not** include contributions to the Medical School Endowment Fund. This accounting is kept by Mr. Foster and a report should be forthcoming from his office.

3. Your Dean attended only last week an executive session of the Association of American Medical Colleges, meeting in Chicago, to discuss those items apt to be discussed in Congress this year directly affecting medical education. They may be summarized as follows.
   1. Presently Congress limits the overhead allotment on research grants to 15% of the total grant. Accurate accounting reveals that the actual cost to the institution to operate a research grant is in the neighborhood of 25% to as much as 40%. Our operation is decidedly minor, running from $25,000 to $40,000 per year for research grants but these institutions where entire departments may be staffed from research grants are obviously feeling the pinch. It is likely that a request will be made of Congress to increase overhead allotments to as much as 25%.
   2. Two special committees, one by the President and one by Congress, have emphasized the demanding need in the country for more physicians particularly by 1970 to meet the population increase. The Bayne-Jones Report emphasized the need for several thousand more physicians to be graduated by 1970 and recommended the establishment of something like 15 to 25 new medical schools to accomplish this result. Considering the cost involved, and limited resources by the states concerned, it seems quite clear that this is a recommendation which will be difficult to implement. Likewise, a straw vote suggested that not more than half of the medical schools in the country today could increase their enrollments without new facilities to a total of not more than 200 medical students in the aggregate. With these factors in mind it seems likely that Congress will be petitioned to appropriate money for the erection of medical educational institutions, probably on a matching basis just like the research construction facility referred to above for our institution. Were such a measure to go through, I would be hopeful that our University Administration would agree to a request for a small state appropriation to match the Federal for the construction of a medical auditorium on the east end of our present building. Those of you who have attended functions at the medical school recognize that we do not have a single room capable of holding a meeting adequate to seat our combined medical classes and faculty, not to mention outside guests.
   3. It is also likely that direct research grants will be made to institutions rather than to individuals to obviate certain shortcomings presently existent in the present system of awarding grants.
   4. Recognizing the shortage not only in quantity but quality of medical students, and the direct impression that many bona fide students are being led away into other areas of science by virtue of high graduate and scholarship stipends, perhaps some measure of financial aid to medical students will be developed. This probably has a low priority. I would be hopeful it took the form of loan funds rather than outright scholarships unless some particular strings were to be attached to the outright grant.
4. Attention is called to a special program which is being arranged for all the preceptors of our medical school teaching program to be held in conjunction with the annual meeting of the State Medical Association in Aberdeen in May. Through the fine cooperation of Mr. Foster's office, a specified time, Tuesday afternoon, has been set aside for this meeting. Personal invitations will go out to all preceptors but it is to be emphasized that any physician of interest is certainly free to attend. This might be identified as a "get acquainted session" although it is surprising that this program which has been going on now for some 12 years should have to be so labelled. We have the distinct feeling that a unified meeting in which the particular objectives of the program could be outlined, and the benefits and, or, detriments of the program could be aired. Dr. Warren Jones who directs our Clerkship Program in Sioux Falls during the second semester is preparing some general observations which he has made upon reviewing case histories submitted by our students. We are hopeful of a true interchange of ideas which may aid us in evaluating this program.
5. The annual medical school dinner-dance program is scheduled for March 26. We can assure any visitor a wonderful entertainment at the banquet as we have one of the midwest's great hummorists on schedule.
6. The medical school cooperated with regional medical organizations in sponsoring programs for physicians and students during this past year. One such program was the Sioux Valley Medical Society in Sioux City back in February and your Dean has already met with their Program Committee to make certain observations and suggestions for their meeting next February. The Internal Medicine Society of South Dakota met at Vermillion in early October and I think had an extremely successful meeting judging from the attendance and what seemed to be an excellent quality in the program.

7. I would recommend to the Medical School Affairs Committee that they in turn petition the Council for the following action.
   1. Continued financial support for the awarding of two medical scholarships in the amount of $100 each to a freshman and sophomore medical student to be awarded in March, 1960.
   2. An appropriation of $50.00 to defray in part the expenses of the South Dakota student delegate to the annual meeting of the Student American Medical Association which usually is held in May.

Respectfully submitted,
Walter L. Hard, Ph.D.
Dean

Following his report, architect's drawings of the proposed research wing were distributed and explained to the committee members.

Dr. Hard suggested that the Medical School Affairs Committee recommend to the Council that the Association continue financial support for the awarding of two medical scholarships in the amount of $100 each to a freshman and sophomore student to be awarded in March, 1960; and that the Association appropriate $50.00 to defray part of the expenses of the South Dakota student delegate to the annual meeting of the Student American Medical Association which usually is held in May. Dr. Jahraus moved to accept the recommendation. Dr. McVay seconded the motion and it was carried.

Dr. Hard reported that there are now 19 full time faculty members at the School of Medicine. He also indicated that there are 1.8 applicants now for each opening in medical schools throughout the country. This is a national average. 60% of the students at the University Medical School are in-state students. It is estimated that 4,000 more medical school graduates per year will be needed to take care of increased population needs in future years.

The meeting adjourned at 10:30 P.M.

COMMITTEE ON LEGISLATION MEETING
SUNDAY, JANUARY 17, 1960
Marvin Hughitt Hotel
Huron, S. D.

The meeting was called to order by Chairman Dr. H. Russell Brown at 10:05 A.M. Present were Drs. Brown, M. C. Tank, C. L. Swanson, and A. A. Lampert. Also present were Mr. John C. Foster and Mrs. Howard Wold.

A resolution from the Black Hills District Medical Society concerning pre-marital examinations and blood testing was discussed. The resolution read was as follows:

RESOLUTION

There has always been a question in the minds of the practicing physicians in Rapid City as to the exact meaning of the wording in the state law requiring a complete premarital examination prior to the obtaining of a marriage license.

It is our feeling that this problem existed for many years and therefore a survey was conducted with identical letters being sent to the Public Health Departments, and to the State Medical Societies of the bordering states of South Dakota. Public Health periodicals and related medical journals were also reviewed concerning the necessity of premarital blood examination. Of the various states polled, the state of Minnesota does not require a premarital physical examination, nor does it feel the need of a premarital law requiring a serologic test for syphilis. The remaining replies from the respective State Boards of Health cite only the state law requiring that the parties in question are free of syphilis "as nearly as can be determined by a thorough physical examination and such standard microscopic and serologic tests as are necessary for the discovery of syphilis." However, replies from the physicians at the State Medical Society level nearly all state that a complete physical examination is practically never done unless if a positive test for syphilis is encountered. It was also noted that none of the states refused to give a marriage license to the applicant even if a positive test for syphilis is found. The Journal of Public Health, in February of 1958, had definitely shown that compulsory premarital blood test laws exert very little if any, influence on syphilis mortality and morbidity, and also made the statement that premarital blood testing revealed so few infectious cases of syphilis so as to make it an unproductive method of case finding as well as an enormously expensive one.

Therefore the Rapid City Medical Society presents the following resolution to be submitted to the Black Hills District Medical Society:

Whereas the law of the State of South Da-

kota relating to physical examination for obtaining a marriage license (being Chapter 36 of the Session Laws for the year 1939) provides for a certificate signed by a physician stating among other things, that the parties in question are free of syphilis "as nearly as can be determined by a thorough physical examination and such standard microscopic and serologic tests as are necessary for the discovery of syphilis" and,

whereas the reference to a thorough physical examination has been the source of much doubt as to the exact extent of the procedure to be followed by the examining physician, and,

whereas the compulsory premarital blood test laws exert very little if any, influence upon syphilis mortality and morbidity, and,

whereas premarital blood testing reveals so very few infectious cases of syphilis so as to make it an (unproductive) method of case finding, as well as an enormously expensive one, and,

where as in no state does the presence of a positive serology test prevent the party from obtaining a marriage license,

whereas it is our belief that the law should be clarified so that a thorough physical examination and serological test for syphilis is no longer required because it is inconclusive and impractical.

NOW THEREFORE BE IS RESOLVED BY THE BLACK HILLS DISTRICT MEDICAL SOCIETY AS FOLLOWS:

1. That the law be amended to dispense with the requirement of a physical examination and a serological test for syphilis, and,
2. That the officers of this Society be authorized and directed to bring this matter to the attention of the South Dakota State Medical Society for the proper committee or officers thereof for appropriate action to the end that the proposed amendment of said law be accomplished.

Respectfully submitted,
Hubert H. Theissen, M.D.
President

The Committee on Legislation endorses, in substance, the resolution as submitted by the Black Hills District Medical Society relating to premarital examinations and the discontinuance of such examinations and premarital blood testing and urges the Association to support the resolution legislatively.

Dr. Tank announced that the Mental Health Committee will hold a meeting on February 13, in Huron, to discuss proposed changes in the State commitment laws. The Mental Health Committee requested representatives of the Committee on Legislation to attend this meeting. It was decided that Dr. Tank and Mr. Foster would attend the meeting.

It was then decided that the next meeting of the Committee on Legislation will be held on Saturday, September 10, in Sioux Falls.

A resolution submitted by the pathologists which would change the law in South Dakota to legalize supplemental death certificates was discussed by the committee. It was decided that the Committee could endorse the idea, in principle, and restudy the entire matter in September. It was felt that any action should be subject to legal advice from our own legal counsel. It was mentioned that perhaps the entire matter could be handled in an amendment to the present law which would permit these supplemental reports to be filed. Final action will be taken in September and the report submitted to the Council.

The Committee then discussed the Coroner's Law, and whether or not it will be submitted again at the next legislative session. The following recommendation was made: The Committee on Legislation recommends to the Council that contact be made by the State Association with the Bar Association aimed toward cooperative consideration of revision of the South Dakota Coroner's Law.

After discussion, the Committee also recommended the following: The Committee on Legislation recommends that the Council authorize a letter to be formulated and sent to every physician in the State encouraging two things — i.e. 1) contributions to the political party of his choice; and 2) active support of candidates for political office who, in his opinion, have the right philosophy toward government.

A discussion was held on HR 4700. Mr. Foster read the handbook from the American Medical Association which contains suggestions of actions to be taken on this proposed

legislation. He also explained the meeting to be held in Omaha, on January 25, to which Chamber of Commerce and other representatives will be invited.

The meeting adjourned at 11:45 A. M.

INDIGENT CARE COMMITTEE MEETING

Saturday, January 16, 1960
Marvin Hughitt Hotel
Huron, South Dakota

The meeting was called to order by Dr. H. P. Adams, Chairman of the Committee on Indigent Care of the South Dakota State Medical Association at 7:00 P.M. Present were Drs. Adams, C. A. Johnson, H. Russell Brown, and Mr. John C. Foster.

A general discussion of the problems facing the care of the indigent in the four categories of Aid to the Blind, Aid to the Disabled, Aid to Dependent Children, and Old Age Assistance, was held. The problem of overhospitalization of these people and what can be done to control the situation was discussed at length. It was suggested that an indoctrination course be held once a year for all new physicians in the State, to give them pertinent information on Medicare, Blue Shield, insurance programs, State programs, and suggestions on office procedure. It was suggested that a one-day course of talks could be scheduled each summer.

Dr. Adams spoke on the progress of the Indigent Care program as far as past experiences with the legislature are concerned. He stressed the fact that much work will have to be done through the County Commissioners Association, as they are the ones who will have to push the program. All physicians should do what they can to speak to the commissioners and explain the program to them, so they will know how the program can operate and what it can accomplish. Physicians will have to become familiar with the program and help get it through. Mr. Foster read the resolution that was passed by the Council last year on the Indigent Care program which gave the Committee the authorization to proceed with work to put it into effect. The Committee suggested that a concerted effort be made to educate the County Commissioners Association on all phases of the program. It was agreed that the category of the aged was the critical phase of the program and that much emphasis should be placed on this situation as a great deal of other publicity will be made throughout the nation on the situation.

The Committee felt that a program to educate the medical profession, legislature, and county commissioners, should be started by the Association. They also felt that the establishment of a relative value fee study would be of help in negotiations with the county commissioners. The Committee suggested that a list of non-cooperative people should be set up so that educational materials can be channeled in the right direction. It will be important to get the money to establish the program into the Governor's budget next year. Dr. Brown suggested that perhaps only the Old Age Assistance program should be stressed and the other three, which do not utilize so much money, could be added at a latter date.

The Committee felt that an informational card could be printed up for distribution to physicians listing eight or ten pertinent facts on the Indigent Care Program which would enable them to understand the situation and to talk to others about it with understanding.

The meeting adjourned at 8:30 P.M.

BOARD OF DIRECTORS MEETING SOUTH DAKOTA MEDICAL SCHOOL ENDOWMENT ASSOCIATION

Marvin Hughitt Hotel
Huron, S. D.
January 16, 1960

The meeting was called to order at 8:45 P.M. by Dr. W. H. Saxton, president of the Board of Directors. Present were Drs. Saxton, H. Russell Brown, F. R. Williams, and C. B. McVay. Mr. John C. Foster, secretary of the Board, and Dr. Walter Hard were also present. Mr. Foster read the minutes of the previous meeting which were approved as read. Mr. Foster then read the financial statement of the Endowment Association. Dr. Hard discussed the property at the University which was left to the Endowment Association by Dr. Stansbury. He indicated that getting a clear title to the property was not an immediate problem. Dr. Hard reported on a survey made over the country on the cost of medical education. The survey showed

that the average indebtedness of the average student for four years of medical school is $4,258.00. The average total cost for four years of medical education is $11,642.00.

Dr. Hard reported on the financial contributions to the University School of Medicine during the past year. A discussion was held on ways and means of raising money for the Endowment Fund. It was felt that a campaign should be held to build up the Fund as soon as possible. It was suggested that a campaign through the District Societies to get to the individual physicians, explaining the Endowment Fund, how it operates, and the uses the money is put to, would be helpful. Dr. Hard volunteered to write a paper for the Journal on this subject and also on financing medical education which would be used in conjunction with editorial comment. Letters to individual doctors should be written. A letter from the Endowment Association's Board of Director's president to the District presidents encouraging them to make an appeal at their District meetings was suggested. Former Governor Mickelson's statement "Put your own dough on the line and exhibit your own interest" was suggested as material.

Dr. Brown moved that the Endowment Association augment a campaign directed towards the physicians of South Dakota with the intent of increasing the annual donations to the Endowment Fund. Dr. McVay seconded the motion and it was carried. Dr. Saxton moved that a letter be directed to Dr. L. J. Pankow accepting his resignation, as requested, and thanking him for his invaluable services on the committee in past years. Dr. Hard seconded the motion and it was carried. It was suggested that the Board members send in their suggestions on a replacement for Dr. Pankow at a later date.
The meeting adjourned at 9:30 P.M.

THE MONTH IN WASHINGTON

Congress appears headed for a showdown this session on legislation for the Federal government to provide medical care for aged persons.

The medical profession and allied groups stepped up their activities in opposition to such legislation as indications mounted that the issue was approaching a crucial stage. Several State Medical Societies planned to send delegations to Washington to personally express their opposition to their Congressmen.

Pressure behind such legislation began to build up early in February.

The Eisenhower Administration announced it was working on three possible programs for providing health care for aged persons in cases of catastrophic — lengthy and costly — illness.

Without amplification, President Eisenhower told a news conference that there was under consideration "a possible change" in the Social Security Act "to run up the taxes by a quarter of a per cent to . . . make greater provision for the care of the aged." 2The President's statement that "there has been no conclusion reached in the administration" was backed up by Arthur S. Flemming, Secretary of Health, Education and Welfare, in a clarifying announcement.

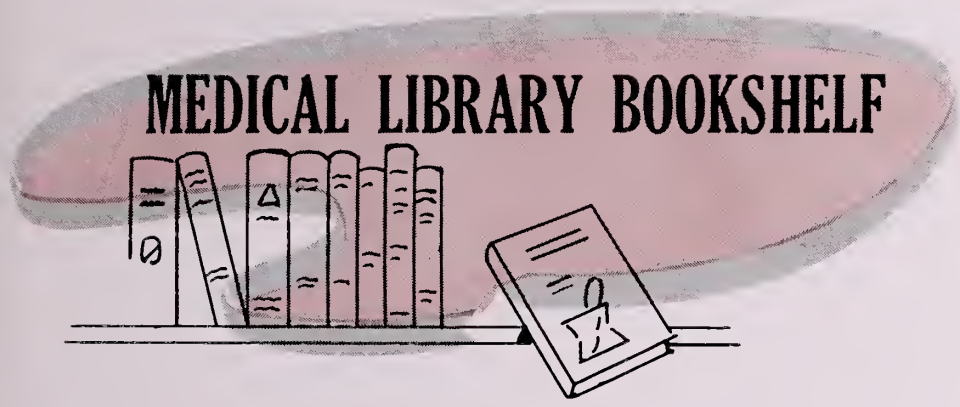
Flemming said his department was working on two other approaches to what he called a serious problem in addition to the possible revision of the Social Security law mentioned by Mr. Eisenhower. The HEW Secretary said consideration also was being given to: 1) stepped-up Federal assistance under the Federal-state public assistance program, and 2) the Federal government supplementing voluntary insurance programs.

Flemming again expressed opposition to the Forand bill which would increase Social Security taxes by one quarter of one per cent each on employers and employes to provide hospitalization, surgical benefits and nursing home care for Social Security beneficiaries. The Secretary said he wanted to "underline that the position of the administration is opposition to the Forand bill."

Flemming said he hoped to have an administration bill ready to submit in early April to the House Ways and Means Committee where the Forand bill is pending. The Committee is scheduled to take up in late March or early April proposed changes to the Social Security Act.

Proponents of the Forand bill — which is vigorously opposed by the American Medical Association and allied groups — were pointing their campaign toward securing the House Committee's approval of the legisla-

(Continued on Page 143)



HEART RESEARCH

A cooperative undertaking of the South Dakota Heart Association and the School of Medicine resulted in "Heart Research Day" at the University Medical School on February 2, 1960. Among the visitors were Dr. Willis Stanage of Yankton, past president of the South Dakota Heart Association and Head of the State Medical Research Committee, and George Rohn, Secretary of the State Heart Association.

A number of interesting and instructive exhibits were arranged in the laboratories by the staff members and graduate students who are carrying on research supported by the funds from the South Dakota Heart Association and from other sources.

Four research projects were demonstrated by members of the Physiology and Pharmacology Department. One of these was a study by Dr. D. M. McCanon, made possible by a two year research contract of $14,633 with the Research and Development Command of the United States Army, supplemented by special research funds from the University budget. This study is on "The Effects of Oxygen Inhalation on Reponses to Cold Exposure." A cold chamber has been constructed next to the laboratory which is set at $10° \pm 1°$ c. Both animals and humans are used for experimentation. The subjects breathe air or oxygen from the large gasometer and expired air is collected in 200 liter Douglas bags and the Co_2 and O_2 contents of the gases are determined. Additional cardiovascular data is obtained from animals, using cardiac catheters to follow pressures and obtain blood samples. Cardiac outputs are calculated from Cardiogreen Dye dilution curves recorded from a Waters cuvette densitometer. These studies are designed to clarify the beneficial effect of oxygen inhalation and evaluate anoxia as a limiting factor in adjustment to cold environments.

The second project "the Physiological Study of Blood Vessels in the Kidney, Intestine, Liver and Brain" has been undertaken by Dr. W. F. Geber, Associate Professor of Physiology supported by a five year grant in excess of $60,000 from the South Dakota Heart Association. The laboratory is well equipped with modern electronic instruments commonly used in cardiovascular research programs. Several vascular problems are being investigated, one of which is hypertension and the factors responsible for its development.

In the next laboratory Dr. W. O. Read, Associate Professor of Physiology, through a series of charts and posters demonstrated graphically his study **"Composition of Muscle Proteins."** Actin and Myosin, the proteins of

muscle which are directly responsible for muscle shortening are extracted from muscle, subjected to acid hydrolysis, and the constituent amino acids are quantitatively separated by exchange chromatography on a Dowex resin. These studies are supported by the Muscular Dystrophy Association contributing in excess of $7,500 during the past three years.

The experimentation going on in the fourth laboratory is under the direction of Dr. F. E. Kelsey, Head of the Physiology and Pharmacology Department. This concerns "The Growth of Radioactive Digitalis Plants and the Isolation of Labeled Digoxin." In 1946, while on the faculty of the University of Chicago, Dr. Kelsey decided that not enough is known about digitalis purpurea and seven years ago he started research studies. A method was devised whereby the drug could be made radioactive and its progress traced through the use of a Geiger Counter. In a previous experiment Dr. Kelsey extracted digitoxin. In his present research he is extracting from the leaves of the digitalis plants the cardiac glycosides, including digoxin. Inside the doors marked with the warning sign Radiation — Danger-Hazard, in an enclosed, air-tight, lighted chamber, the digitalis plant grows for weeks. It becomes radioactive from the added $C^{14}O_2$ obtained from the Atomic Energy Commission Laboratory at Oak Ridge. The extracted drugs are used in animal and human experiments, and because they are radioactive the course of the drug can be traced in the body and the rates of absorption, excretion and distribution in the tissue determined. These studies were made possible by research grants in excess of $35,000 over the past seven years from the American Heart Association and special University funds.

Allen Markovetz from Gettysburg, South Dakota who is in his third year of graduate study, was awarded a fellowship from the South Dakota Heart Association to support the work he is undertaking in the use of bacteria in heart disease research. His findings should contribute to our knowledge of metabolism in normal or diseased heart tissue cells. Since bacteria go through one generation in about twenty minutes, it is possible to study nutritional and metabolic aspects which are similar to such activities of heart muscle tissues, in a shorter period of time. Mr. Markovetz is working with one amino acid analogue which is structurally similar but not identical to any known amino acid and is not used in the body. The heart muscles of certain vitamin-deficient animals lack the ability to concentrate this analogue. He has found a bacterium which will use this analogue and is studying the processes.

Dr. Amos Michael, Head of the Pathology Department exhibited a number of heart and artery specimens. These showed the pathologies of the heart including defects in the formation leading to inadequate function; hardening of the arteries, particularly the coronary arteries supplying the heart. The loss of elasticity of the arteries and the deposits which had accumulated in them were clearly seen in the specimens. Apparatus was set up which demonstrated the action of the heart valves when pressure was applied to them.

The Medical Library had on display for Heart Research Day books, pamphlets and illustrations on the heart.

Mrs. Esther Howard
Medical Librarian

S. D. MEDICAL BOARD SENDS TWO TO CHICAGO MEETING

The S. D. State Board of Medical Examiners was represented at the National Federation of Medical Boards meeting in Chicago February 7-9 by secretary C. Robert Bartron, M.D. and executive secretary John C. Foster.

Highlights of the meetings included discussions of disciplinary activities of medical boards, new trends in medical education and licensure of foreign educated physicians.

BLUE SHIELD SESSION HELD IN CHICAGO

The annual professional relations conference of Blue Shield plans was held in Chicago from February 1 through 3. Attending from South Dakota were D. H. Breidt, M.D., Sioux Falls; H. Russell Brown, M.D., Watertown; R. W. Beckwith, Chamberlain; John C. Foster, Sioux Falls; and R. C. Erickson, Sioux Falls. Dr. Brown and Foster were speakers on the program.



Nature, it has been observed, is the original promoter–for constantly and ingeniously she is expanding her creations.

INFLUENCE...

As a respected doctor, the ideas you express will take root in the minds of many. As an active supporter of Blue Shield you can, if you will, do more than anyone else to further the cause of this voluntary, doctor-guided program of medical care prepayment in your community. One doctor writes: "A team of Blue Shield Plans and cooperating physicians cannot be matched by any other program aimed at the same purpose."

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PRESIDENT'S PAGE



We are asked to try to influence the right kind of young people to study medicine. We are told that the medical schools now have room for more students.

The practicing physicians should be better able to select the best type of students that will make the best practicioner of medicine. We know the qualities most needed such as honesty, a love of all humanity, and a willingness to work.

I think that most of us feel that our life as physicians has been mainly very satisfying. It is a life that we should be able to sell to the young student as most of us feel that we are doing a necessary job, we are kept busy, and we never know all that there is to be known about medicine. We also are able to provide our family with a good living. This good living has always been a relatively easy matter in the practice of medicine but it has only been in the last 15 years that much more than a living was often made by doctors. The present large incomes made by some doctors will perhaps soon be a thing of the past so the person who wishes to go into the field of medicine purely from the financial standpoint should be discouraged.

To influence the right kind of high school students to consider the medical fields we should take the time to talk to them about the many fascinating things in medicine and show them a few of the common interesting chemical and microscopic examinations that we frequently make.

Many High School and College students feel that the study of medicine is impossible from the financial standpoint unless they have relatives who are able to provide ample funds. I do not believe that this is necessarily true.

Many of the more popular liberal arts colleges now have tuition rates as high or higher than the average medical schools. Schools of Optometry require four years and their tuition is as high as a medical school. The study of Pharmacy now takes four years with a fairly high tuition rate.

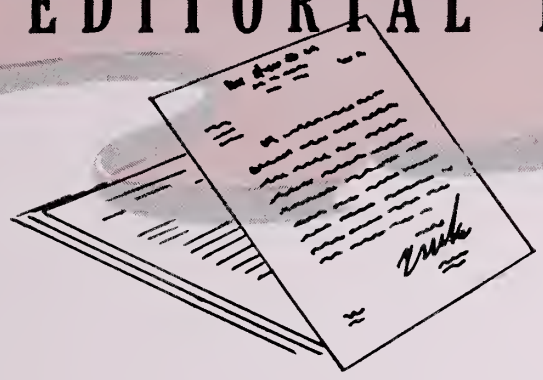
Our high school graduates that wish to study medicine can take their premedical work in one of our state schools or in one of our church colleges near their home at a very nominal cost. Part time work during the school year and summer jobs can help materially in paying the cost of their schooling.

The first two years of medicine can be taken at the University of S. D. at a minimum of expense. Part time work is not advisable during these two years. In the Junior and Senior year of medicine the smaller hospitals in the large cities, where the medical schools are located, have lots of part time work where the medical student may earn his board and room and perhaps some cash. There are also loan funds for the medical student who must borrow.

I feel that the medical student who is determined to be a doctor and who is willing to work hard can manage in some way if we give him all the encouragement that we can.

R. A. Buchanan, M.D.
President

EDITORIAL PAGE



WHITE HOUSE CONFERENCE ON CHILDREN AND YOUTH

The sixth decennial White House Conference on Children and Youth will take place in Washington, D. C., starting Sunday March 27, and running through the remainder of the week. Seven thousand invitations have been issued for delegates representing state committees, national organizations, public officials, and international guests. The deliberations, at the national level, will revolve around values and ideals, education, physical and mental health, child care, leisure, recreation and the arts, teen-agers in today's world, youth in conflict, and the problems associated with minority groups.

While this appears to be a rather tremendous undertaking with so many people involved, the Conference in previous years has given rise to follow up activities that have very well produced changes in the living standards of the American public as a whole. As is true with many of these conferences sponsored by governmental agencies, the attendance will be loaded with governmental employees, social workers, and educators. While we have nothing against this type of person who has a very valid interest in children and youth, we do feel that representation from labor, industry, and the professions should be just as great.

The South Dakota State Medical Association will be represented by one physician, Dr. John D. Bailey of Rapid City, who by virtue of his specialty of pediatrics and membership on the governing Council of the Medical Association, is well qualified to represent the Association.

We wish the Conference great success and look forward to having a report of what went on at the meetings from Dr. Bailey when he returns.

A LESSON TO BE LEARNED

EDITOR'S NOTE: The following editorial is reprinted from the COLORADO SPRINGS GAZETTE TELEGRAPH. To us, it presents ideas and facts that we believe affect the future of every man, woman and child in this country.

An article in the December publication of the First National City Bank of New York, under the subject of "Business and Economic Conditions," has provided several paragraphs which are of great impact and interest.

The author has apparently made the same observation which a number of economists have commented on recently, namely, that Russia is heading away from socialism while the United States seems grimly determined to drink the cup of socialist fallacy to the bitter lees.

We'll quote from the article:

"One of the most remarkable facts of the twentieth century is the grip taken on Western civilization by the 'heavy progressive in-

come tax' which Karl Marx envisaged as a means of making 'despotic inroads on the rights of property, and on the conditions of burgeois production . . .'

"A second equally remarkable fact is the way Soviet Russia has steered itself away from the booby trap and has thrown aside basic communist doctrine: from each according to his ability, to each according to his need.

"In the United States having progressive income taxation is justified on the principle of 'ability to pay.' We can read in any economics best-seller the comforting words that 'the income tax, despite high marginal rates and frequent warnings of the damage these may do in impairing incentives, has so far had no visible deleterious effect.'

"Premier Khrushchev, on his visit in October, showed greater perception. He frankly pointed out to the President how the U. S. tax system takes away incentives and stifles increased productivity. He remarked that the Russian policy is to provide generous incentives to make people want to work harder. They have also seen the spirits of their people respond to broadened opportunity. But it is the Soviets who have the lightest income tax among major nations. They plan to get rid of it entirely and to pack the whole cost of government into prices paid by consumers."

The irony of this situation would be vastly amusing were it not so tragic. Anyone who cares to check will discover that a **"heavy and graduated income tax is Karl Marx's second recommended step in the taking over of any nation.** Russia, which many people confuse with communists, has scrupulously avoided going all the way with an income tax. But here in the nation which is supposed to be the bastion of freedom and the implacable enemy of communism, we have adopted this prime objective of the communist doctrinaires.

But the article has another paragraph which is worthy of quoting.

"Meanwhile, we are still headed the wrong way, layering state income tax levies on top of the formidable federal rate progression. Perhaps we could understand better our failures of growth if we renamed the tax on income, a tax on progress."

We cannot help but agree. What a travesty on both justice and common sense it will be if Russia manages to drop the income tax completely and the United States continues to use this device, not only at national level but at state and city level too.

We can defeat communism and socialism in America. But we can only do it if and when we really want to. And the first thing we must do is to stop calling upon the government to do everything for us. Secondly, we must prevent, in every way open to us, the government taking the initiative to coddle us and to paternalize us.

We are saying that the way to oppose socialism is for us to grow up and act like mature people. It is at once as simple and as complex as that.

HORMONE THERAPY IN OBSTETRICS AND GYNECOLOGY—

(Continued from Page 128)

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URINARY STRESS INCONTINENCE—

(Continued from Page 110)

pointing results.

One should rule out cases of so-called "urge" incontinence due to inflammatory disease of the bladder or urethra by careful study of the urine and cystocopic examination. Incontinence with an atonic neurological bladder should not be treated by this procedure.

Patients who have had previous vaginal procedures with scarring of the anterior vaginal wall are likely to have a poor result unless the urethra and bladder neck is freed vaginally first. Ball of New York has emphasized this point and it seems logical and important to me.

Some writers have advocated the use of non-absorbable suture material in suspending the urethra and bladder neck. Certainly it would hold this structure with more strength. Silk or cotton sutures would be less likely to give way as probably occasionally happens to account for failures when catgut is used. But since this procedure is always associated with potential infection from leakage of urine from needle perforation or stitch trauma, most operators prefer not to chance the prolonged drainage should infection occur until all the silk sutures have sloughed out.

In this small series no postoperative infections were seen. Periostitis and chondritis of the symphysis have been reported.

Conclusion

Today's concept regarding urinary control in women have been reviewed and the changes associated with stress urinary incontinence have been outlived.

Sixteen cases of stress urinary incontinence treated by vesicourethral suspension are reported.

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THE MONTH IN WASHINGTON

(Continued from Page 142)

tion at that time.

The AFL-CIO, a main supporter of the Forand bill, urged labor union members to write to congressmen on the Committee urging them to vote for it. The AFL-CIO also distributed a pamphlet quoting a handful of physicians as supporting the legislation. But the labor organization didn't mention that the overwhelming majority of doctors oppose it.

The Senate Subcommittee on Problems of the Aged and Aging, headed by Sen. Pat McNamara (D., Mich.), issued on behalf of its Democratic majority a report stating that use of the Social Security program "is the most efficient procedure for providing" health care for older persons.

"The American Medical Association today sharply disagreed with the recommendation of the McNamara subcommittee regarding government medicine for Social Security beneficiaries.

"Dr. Louis M. Orr, Orlando, Florida, President of the A.M.A., said:

"This is a politically inspired committee. Senator McNamara, Democrat from Michigan, has long supported political medicine. The fact is that at the seven subcommittee hearings held throughout the United States, observers heard little support expressed by the older citizens who attended the hearings for government medicine financed by additional taxes and administered through Social Security."

The Republican minority stated that testimony before the Subcommittee "proves that it is possible for elderly people to secure private insurance to provide hospitalization and surgical benefits without any intervention by public authorities."

Sen John F. Kennedy (D., Mass.), a leading contender for the Democratic nomination for President, introduced legislation similar to the controversial Forand bill but broader in scope. The Kennedy bill would eliminate surgical benefits but would add diagnostic outpatient and home nursing services.



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Extremely low toxicity[4] . . . only 2.7 per cent incidence in recommended dosage — Typical of KYNEX relative safety, toxicity studies[5] in 223 patients showed **TOTAL** side effects (both subjective and objective) in only six cases, all temporary and rapidly reversed. Another evaluation[4] in 110 patients confirmed the near-absence of reactions when given at the recommended dosage. High solubility of both free and conjugated product[6] obviates renal complications. No crystalluria has been reported.

Successful against these organisms: streptococci, staphylococci, E. coli, A. aerogenes, paracolon bacillus, Gram-negative rods, pneumococci, diphtheroids, Gram-positive cocci and others.

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once-a-day sulfa...

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KYNEX Tablets, 0.5 Gm., bottles of 24 and 100. Dosage: Adults, 0.5 Gm. (1 tablet) daily, following an initial first day dose of 1 Gm. (2 tablets).

KYNEX Acetyl Pediatric Suspension, cherry-flavored, 250 mg. sulfamethoxypyridazine activity per teaspoonful (5 cc.). Bottles of 4 and 16 fl. oz. Recommended Dosage: Children under 80 lbs.: 1 teaspoonful (250 mg.) for each 20 lb. body weight, the first day, and ½ teaspoonful per 20 lb. per day thereafter. For children 80 lbs. and over: 4 teaspoonfuls (1.0 Gm.) initially and 2 teaspoonfuls daily thereafter. Give immediately after a meal.

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NEW—for acute G.U. infection AZO-KYNEX® Phenylazodiaminopyridine HCl—Sulfamethoxypyridazine Tablets, contains 125 mg. KYNEX in the shell with 150 mg. phenylazodiaminopyridine HCl in the core. Dosage: 2 tablets q.i.d. the first day; 1 tablet q.i.d. thereafter.

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Pop's Proverbs

I like to hear that patients like me, but I'd rather hear that I had helped them when they needed it.

PIERRE DISTRICT ELECTS MORRISSEY

Dr. Michael M. Morrissey, at one time president of the South Dakota State Medical Association, was elected president of the Pierre District Medical Society at the meeting held January 28, at the Pierre Clinic. **Dr. Buron O. Lindbloom** was elected vice-president; and **Dr. J. T. Cowan** was re-elected secretary-treasurer.

Delegates to the State meeting will be **C. L. Swanson, M.D.** and **S. J. Fox, M.D.** Their alternates will be **E. H. Collins, M.D.** of Gettysburg, and **J. T. Cowan, M.D.** of Pierre. **Dr. I. R. Salladay** was elected censor for a three year term.

The three elected officers, president, vice-president, and secretary-treasurer, were named to form a committee on implementing the action on the Forand Bill.

Guests at the meeting were **Dr. R. A. Buchanan,** president of the State Medical Association; **Mr. Charles Johnson,** Field Representative of the American Medical Association; and **Mr. John C. Foster,** State Association Executive Secretary.

PRACTICAL NURSES GRADUATE AT S. F.

The first graduating class of the Washington High School (Sioux Falls) of Practical Nursing numbered 18 when they were presented diplomas by school board President John Griffin on January 5th.

All of the graduates subsequently passed their State Board examinations and have been awarded pins denoting their titles of Licensed Practical Nurse.

FIFTY YEAR CLUB

Dr. J. H. McCurry, of Cash, Ark. advises that he has the approval of the American Medical Association to organize a Fifty Year Club within the AMA. Dr. McCurry is anxious to hear from physicians who have been in practice fifty years or more who desire to become members of this club, giving their name and a complete address.

The first meeting is to be held in Washington, D. C. at the Clinical meeting November 28 to December 2, 1960.

NEWS NOTES

Dr. F. E. Manning, Custer, has announced that he is a candidate for the S. D. House of Representatives. Dr. Manning has had four terms in the State Senate.

Dr. Forrest Schroeder, for the past seven months at Spearfish, has relocated in Missoula, Montana.

* * *

Richard Tschetter, medical student, son of **Dr. Paul Tschetter,** Huron will marry Miss Mary Jane Meadows of Watertown, in July.

FORM 1099's REQUIRED BY IRS RULING

A ruling by the Internal Revenue Service makes it clear that the Blue Shield office must report fee payments to doctors if a total of $600.00 or more has been paid in either Blue Shield or Medicare payments. If a doctor has received $600.00 or more from both Blue Shield and Medicare, a separate form is filed for each amount.

Internal Revenue Service form 1099 is used, a copy of which is sent to each doctor receiving $600.00 or more in a calendar year.

The attorney for South Dakota Medical Service has contacted the Internal Revenue Service in regard to payments made to individual doctors which in turn is credited to a clinic or partnership. In this case, the Internal Revenue Service says they would not question a doctor's statement that such a payment was not retained by him, but was turned over to a partnership or corporation, since that would be the normal procedure for doctors practicing in such manner.

MEDICAL COST RISE IS NORMAL

Despite the rapid increase in medical care costs in recent years, this expense has not risen as much as several other items since pre-World War II days, the Health Insurance Institute reported today.

During the 20-year period from 1938 to 1958, the cost of food and apparel both increased at a faster pace than medical care, the Institute said in its report based on official figures of the Bureau of Labor Statistics Consumer Price Index.

In addition, the all-items index also has climbed more sharply than the medical care index, said the Institute.

From 1938 to 1958, the all-items index rose 105 per cent, while medical care went up 99 per cent, apparel increased 100 per cent, and food soared 149 per cent.

In the same period, the cost of transportation climbed 95 per cent, but in the 1936-56 period even transportation rose faster than medical care, said the Institute.

AGING CONFERENCE HELD IN OMAHA

Forty-four representatives of chamber of commerce, medical associations, and insurance companies met in Omaha on Monday, January 25 to discuss proposed legislation for medical care of the aged.

Speakers from the U. S. Chamber of Commerce and the insurance industry led off the conference followed by discussion by all participants. HR 4700 and the White House Conference on Aging came in for the major portion of the discussions.

Attending from South Dakota were Emmet Brewick, Sioux Falls and Les Thorpe, Pierre, representing the insurance industry, Irvin Krum, Huron and John Murphy, Sioux Falls, representing the Greater South Dakota Association; Rich Gwynne, Aberdeen, Chamber of Commerce and John C. Foster, representing the South Dakota State Medical Association.

ANNOUNCEMENT

Two Short or Refresher Courses will be given in early June 1960, by the Children's Hospital of Philadelphia and the Graduate School of Medicine University of Pennsylvania.

PEDIATRIC ADVANCES. May 30 through June 3, 1960.

Conducted by the Staff of The Children's Hospital of Philadelphia. The curriculum will consist of clinics, demonstrations and panel discussions in selected aspects of contemporary pediatrics in which important advances are being made. NOTE: Interested physicians are urged to apply early, since total attendance is limited. Registration fee will be refunded if the registrant later finds it impossible to attend. TUITION: $115.00.

PRACTICAL PEDIATRIC HEMATOLOGY. June 6 through 10, 1960.

Conducted by Irving J. Wolman, M.D., Thomas R.

Boggs, Jr., M.D. and other members of the Hemstology Department of the Children's Hospital of Philadelphia. TUITION: $125.00.

The program on the last 2 days will be devoted to Problems of Blood Grouping, Neonatal Jaundice, Kernicterus and Exchange Transfusions. Physicians may register for these 2 days only; if desired: TUITION: $50.00.

An illustrative collection of 25 abnormal blood and bone marrow slides has been prepared. These are available for purchase: $10.00 for registrants; $15.00 for non-registrants.

Inquires should be addressed to Irving J. Wolman, M.D., Director of Post-Graduate Education, The Children's Hospital of Philadelphia, 1740 Bainbridge St., Philadelphia 45, Pa.

HILL-BURTON AIDS SO. DAKOTA

A number of projects, which will help meet the health needs of South Dakota, are currently under construction with the assistance of Federal Aid matching funds made available under the Hill-Burton program.

The following projects have been recently completed and are awaiting final federal audit:

Pioneer Memorial Hospital, Viborg

Memorial Hospital Addition, Watertown

Community Hospital, Mobridge

Mountain View Nursing Home, Rapid City

Gettysburg Memorial Hospital Addition, Gettysburg

Facilities currently in the construction stage are as follows:

A twenty bed hospital in Dell Rapids should be completed in January.

Additions to the Flandreau Municipal Hospital, Freeman Community Hospital, and Mother of Grace Gregory Community Hospital should also be completed sometime in January.

The addition to St. Anthony's Hospital at Martin is still in the brick laying stage while the new 20-bed hospital in De Smet should soon be enclosed and inside work started.

Work is progressing nicely on the United Retirement Center at Brookings and this modern nursing home should be ready for occupancy sometime this spring.

Bids have been scheduled for the Brady Memorial Nursing Home, which is to be built in Mitchell, for 2:00 p.m. on January 14.

The plans are being revised for the new addition to St. Joseph's Hospital, Deadwood. Bids had been previously taken on this addition and came in for more than funds were available.

The Custer Municipal Hospital project is still tied up by a court injuction which concerns the voting procedure for the establishment of a municipal hospital.

The architects have been chosen for a number of other projects which have been allocated funds under this program. They are as follows:

Edgemont Municipal Hospital and Bowdle Municipal Hospital — Potts and Robel.

Lutheran Nursing Home, Lemmon — Herges, Kirchgasler and Associates.

St. Mary's Hospital at Pierre and the Methodist School for Nursing — at Mitchell — Walter J. Dixon.

Madison Community Hospital, Minnehaha Mental Health Center, and the Rummel Nursing Home at Sioux Falls — Hugill, Blatherwick, Fritzel and Kroeger.

Also, Ellerbe and Associates of St. Paul, Minnesota have been chosen for the Brookings hospital project and Spitznagel and Associates of Sioux Falls have been chosen for the Britton hospital project, which are programed in the future for Hill-Burton funds.

NEWS NOTES

Dr. G. I. W. Cottam of Sioux Falls participated in a panel discussion of "Surgical Management of Diverticulitis of the Colon" at the Clinical Congress of Abdominal Surgeons at Miami, Florida on February 1st. **Dr. G. R. Bartron** of Watertown participated in a panel on, "Surgery of Gastric and Duodenal Ulcer." **Dr. Russell Greenfield** of Sioux Falls and **Dr. George E. Whitson** of Madison also attended the meetings.

COLLEGE OF OB-GYN TO HOLD MEETING

The American College of Obstetricians and Gynecologists will hold its eighth annual meeting at the Netherland Hilton Hotel, Cincinnati, April 3-6. About 2,000 physicians are expected to attend.

The scientific program on Monday, Tuesday, and Wednesday, will consist of the presentation of papers by leading obstetricians and gynecologists from all parts of the country, correlated seminars, clinical and breakfast conferences, and motion pictures. Every aspect of the specialty will be covered by more than 240 participants in the program.

New this year will be the correlated seminars, it was announced by Dr. W. Norman Thornton of Charlottesville, Va., chairman of the program committee. Each seminar will consist of four sessions spread over three days, all devoted to the same subject under the same leader, thus allowing complete development of the material presented.

For further information write to Mr. Donald F. Richardson, Executive Secretary, The American College of Obstetricians and Gynecologists, 79 West Monroe Street, Chicago 3, Illinois.

NEWS NOTES

Dr. Bernard C. Gerber has joined the staff of the Aberdeen Medical Center in the field of surgery. A native of Aberdeen, he has been associated with a U.M.W. hospital in Williamson, W. Va. for the past 18 months. He is a deplomate of the American Board of Surgery.

* * *

Medical Associates Clinic, Pierre, formerly the Downtown Clinic has moved into its new quarters opposite St. Mary's Hospital. The Clinic is staffed by **Drs. M. M. Morrisssey, C. L. Swanson, R. C. Jahraus,** and **B. O. Lindbloom.**

* * *

Dr. James Gilbert has joined the staff of the Northeastern South Dakota Mental Health Center in Aberdeen.

YALE TO NOTE SESQUICENTENNIAL

The Yale School of Medicine will celebrate a century and a half of existence on October 28 and 29 of 1960. The occasion will be marked by meetings, exhibitions, and addresses suitable to the occasion. Among a notable group of guest speakers will be Sir Howard Florey of Oxford, England. Complete details of the program will be announced later.

It was in October 1810 that the Connecticut General Assembly granted a charter to Yale College for the establishment of the Medical Institution of Yale College; the fifth medical school in the United States thus came into being. Unlike its predecessors the medical school was founded through impetus coming chiefly from within the College and not from a group of outside physicians.

The first medical faculty at Yale was a notable one, containing Eneas Munson, foremost authority on materia medica, Nathan Smith and Benjamin Silliman, still counted among Yale's greatest, Eli Ives and Jonathan Knight, leaders in medicine who were each to become President of the American Medical Association. From the start, the Connecticut Medical Society was a partner in the enterprise and worked in close cooperation all during the first half century of the School's existence.

Other events associated with the sesquicentennial celebration will take place during the academic year 1960-61. These include an exhibition of medical art at the Yale Art Museum and a scientific meeting to be held in conjunction with the dedication of a new Medical School auditorium.

Dr. D. A. Gregory, Milbank, has been named State volunteer chairman for the 1960 Cancer Society Drive.

3RD DIST. DISCUSSES JENKENS-KEOGH

The Third District Medical Society met in Madison on February 11th to hear a discussion on the Jenkens-Keogh Bill and its effects on doctors. Mr. Walter Petroski made the presentation.

Dr. Konstantin Sprosts, formerly at Conde, has located at Presho.

Drs. John C. Hagin and **J. H. DeGeest,** Miller, have moved into new and larger quarters.

BROOKINGS DISTRICT HEARS PETROSKE

Walter Petroske, attorney for Northwestern National Life Insurance Company, Minneapolis, spoke on retirement plans currently available and that embodied in the Keogh-Simpson bill to 18 3rd District members and wives at Madison, February 11th. A question and answer period followed the presentation.

During the business session, the District Society passed a resolution opposing the "Forand" Bill as did the Auxiliary at their business session.

AMERICAN COLLEGE OF SURGEONS MEET IN MINNEAPOLIS AND ROCHESTER

Surgeons and related medical personnel are invited to attend the four-day Sectional Meeting of the American College of Surgeons in Minneapolis, Minn., April 11 through 13, 1960, and Rochester, Minn., April 14. Headquarters in Minneapolis will be Hotel Leamington, and Rochester will be Mayo Clinic.

Horace G. Scott, Minneapolis, Clinical Instructor of Surgery, University of Minnesota, Staff of Abbott, Northwestern, St. Barnabas and Swedish Hospitals, is Chairman of the Advisory Committee on Local Arrangements. Among those assisting him are the following doctors: Leo C. Culligan, Walter A. Fansler, Erling W. Hansen, Lyle J. Hay, Claude R. Hitchcock, Arnold J. Kremen, C. Walton Lillehei, Donald C. MacKinnon, Daniel J. Moos, Richard S. Rodgers, Owen H. Wangensteen, John P. Wendland, from Minneapolis; Jerome A. Hilger, Frederick M. Owens, Jr., Wallace P. Ritchie, from St. Paul; Edward S. Judd, James B. McBean, Joseph H. Pratt, C. Wilbur Rucker, from Rochester; Owen G. McDonald, from Duluth. Co-Chairman for the special one-day sessions at Mayo Clinic, Rochester, are Edward S. Judd and Joseph H. Pratt.

In addition to the general surgery programs at Minneapolis and Rochester, there will be a one-day otolaryngology program, and a one-day ophthalmic surgery program in Rochester, planned by James B. McBean and C. Wilbur Rucker. Both programs will be held at Mayo Clinic.

The programs will include scientific reports on topics of current concern such as surgical treatment of regional ileitis, early surgical graft coverage of deep burns, choice of operation for peptic ulcer, surgical diseases of the spleen, management of acute renal failure, management of various types of trauma, prophylactic and adjuvant treatment of cancer of the breast, endometrial cancer, cancer of the cervix, gastrointestinal bleeding, recent advances in surgery for pancreatic disease, fibrous tumors of the soft tissues, surgical factors of the peptic ulcer problem, parenteral therapy of the surgical patient and pitfalls in biliary tract surgery.

A discussion on activities of the College will be held during the Fellowship Luncheon Tuesday noon. Dr. I. S. Ravdin, Chairman, Board of Regents, and president-elect of the American College of Surgeons, will preside. Panelists will include College staff members and John D. Ivins, Rochester, chief of Trauma Section IX, (Minnesota, North Dakota, South Dakota, Nebraska); Danely P. Slaughter, Chicago, Member of committee on cancer and past chairman of Cancer Committee.

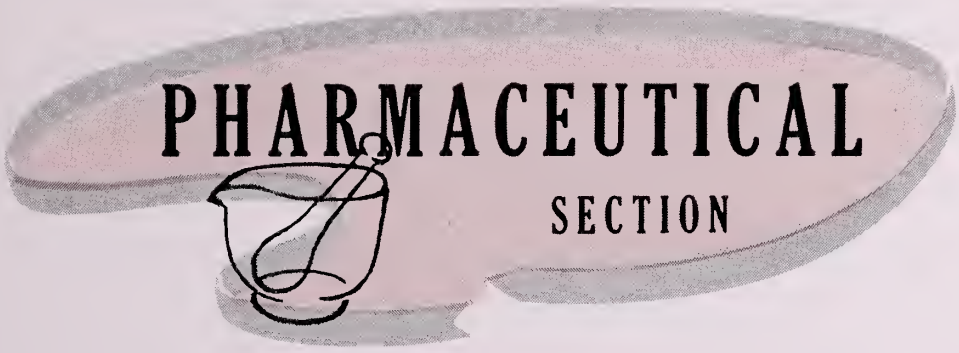
SIOUX FALLS DISTRICT INVITES AREA PHYSICIANS FOR APRIL 5 MEETING

Area physicians are being extended a special invitation to attend the 7th district Medical Society meeting in Sioux Falls, April 5th to hear Dr. Maurice Lev, director of the Congenital Heart Disease Research and Training Center of Chicago. Dr. Lev will use as his subject "Basic Concept of Congenital Heart Decease."

The next day he will hold clinics at the local hospitals to review heart cases.

The meeting is scheduled for Giovanni's Resturant at 6:30 P.M.

Dr. Lev is a graduate of Creighton University (1934) and became an instructor in Pathology at the Illinois Medical School in 1939 and Pathologist for Chicago State Hospital in 1940. Serving 4 years in the Army he returned to Creighton as assistant professor of Pathology from where he progressed to positions at Illinois and the University of Miami. He is currently Professor of Pathology at Northwestern University Medical School.



HAROLD S. BAILEY, PH.D.
EDITOR
Division of Pharmacy
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Brookings, South Dakota



CHOLESTEROL: A MAJOR MEDICAL ENIGMA*

Part III

The Dietary Approach to Heart Disease

The way to a man's heart, the old saying goes, is through his stomach. While this advice is intended in strictly the romantic sense, there's more truth than romance in it. Or at least vast evidence in all parts of the world would indicate so.

The major cause of death in the United States is heart disease. It accounts for about 1,000,000 victims a year, including more than one-third of all the male deaths from 45 to 74 years. The main cause of heart disease is atherosclerosis.

Although formerly regarded as the inevitable result of old age, atherosclerosis is now considered to be a metabolic disease of multiple etiology, characterized by a disturbance of the cholesterol-lipid-lipoprotein metabolism. It is understandable, then, that the focal point of medical research today should be on dietary fat.

A number of surveys have shown that populations with generous intake of animal fats and with high serum cholesterol levels have a high incidence of atherosclerosis, whereas others with low animal fat intake have a much lower incidence.

In 1952 Dr. L. W. Kinsell and associates reported maintaining 12 individuals on constant formula diets for long periods. Some diets had high fat content, others were high in carbohydrate. Fat was derived from vegetable sources, egg yolk or dairy fat. Carbohydrate-free diets with large amounts of vegetable fat and protein were found to cause a "major and maintained fall in the concentration of serum cholesterol and phospholipids which continued throughout the period of diet administration." The addition of 60 grams of cholesterol per day to this diet did not cause a significant rise of serum cholesterol values. However, when the same amount of fat was derived from dairy or egg sources, blood cholesterol levels returned to

* The third in a series of articles summarizing present day thinking on the problems of cardiovascular diseases and lipid metabolism. Material for this article was supplied through the courtesy of Edward Gottlieb Associates. (Part I and Part II will be found in the January and February 1960 issues).

those observed on the mixed diet before the study. Later, these researchers pointed out that serum cholesterol was lowered by oils with a high concentration of unsaturated fatty acids.

Work in several centers around the world has demonstrated that serum lipids can be lowered by ingestion of highly unsaturated oils. Dr. E. A. Ahrens and his co-workers at the Rockefeller Institute, using isocaloric formulas, have shown that corn oil as a source of fat gives reduced serum lipid levels. Purification of the oil did not diminish the effect. Other unsaturated oils, such as safflower or cottonseed, also were effective, but elevated cholesterol levels were found following inclusion of animal fats, coconut oil (90 per cent saturated acids) or butter fat. They clearly demonstrated that hydrogenation of corn or cottonseed oil causes a loss of the cholesterol-lowering ability.

Dr. Brian Bronte-Stewart and his associates at the University of Cape Town in South Africa, have been active with similar work. Their volunteers were natives on a natural, low fat and low cholesterol diet, together with two European males with angina pectoris showing high serum cholesterol levels. They reported that sunflower oil, groundnut oil, pelchard oil (marine) and seal oil depressed serum cholesterol levels; olive oil showed no effect; and that animal fats and hydrogenated oils elevated these levels. Subjects who received fairly large amounts of saturated fat each day had the elevated cholesterol levels lowered by the addition of an unsaturated oil. For example, 10 boiled eggs a day (100 Gm. fat) resulted in increased serum cholesterol levels. Scrambling the same number of eggs with 100 Gm. of sunflower seed oil reduced the cholesterol values toward the base line. On a fat-free diet, the addition of a small amount of saturated fat raised the cholesterol. Serum cholesterol levels in these experiments usually changed within 48 hours of the dietary change.

Two researchers at the University of Lund in Sweden have taken a somewhat different approach. They feel that formulas are unphysiological and that if there is to be hope that people will change their eating habits, the diet must be one that can be interesting. Accordingly, they put their normal volunteers on a basic diet of bread, cereal, vegetables, potatoes, rice, fruit, sugar, lean meat or fish. The fat to be tested supplied about 40 per cent of the diet's calories. When corn oil was used, it was given as such, or incorporated in specially prepared "dairy products" for palatability.

They reported that when these people were taken from a free diet and corn oil was supplied as the source of fat, total serum cholesterol fell an average of 70 mg. per 100 ml. Replacement with milk fat was quickly followed by a return to nearly free diet levels.

This finding is similar to that of Dr. T. M. Beveridge and his group at Queen's University in Ontario, who found serum cholesterol decreased on a fat calorie intake of 30 per cent corn oil and 30 per cent butter, but when the percentage was 15 and 45, respectively, serum cholesterol rose.

In another study by the Swedish investigators, they treated 19 cases of familial essential hypercholesterolemia, and 14 of these were on the diet for at least a year. These patients received 40 per cent of their calories as corn oil, either as such or incorporated into synthetic "dairy products." Cholesterol levels in all decreased after two weeks' treatment and fell further in some to a fairly low level. Only one patient did not respond. They state, "Now that we have the opportunity of administering fat with a cholesterol depressing effect in a palatable form, it is no longer difficult for patients to follow this diet indefinitely, if it is thought to be indicated." (Malmros and Wiegan, "The Effect on Serum Cholesterol of Diets Containing Different Fats," **Lancet**, 2:1, 1957).

From Holland, Drs. Handel and Neuman reported that on low fat diets their patients became mentally depressed and physically weak and that effects on serum lipids were often disappointing. They therefore abandoned the low fat diet, restricting added fat to unsaturated soybean oil. Whole cereals were allowed; degerminated flour and cereals were not. All patients treated had signs of coronary insufficiency. Fourteen with initial levels of cholesterol averaging 300 mg. per 100 ml. showed a steady decrease to an average of 228 mg. per 100 ml. Four had not responded to a low fat diet. These low levels were maintained for many months. When levels were low to start, this diet had little

effect on cholesterol. They concluded, "Our results are compatible with the hypothesis that high blood lipids in atherosclerosis are caused or maintained by deficiencies in Western staple food."

Minnesota Studies

Dr. Ancel Keys, at the University of Minnesota, has been an active student of this problem for years. He reported experiments carried out to determine whether the beneficial effects of certain oils was due to the unsaturated fatty acids present or due to the presence in these oils of large amounts of essential fatty acids. The oils he tested had these characteristics:

	Corn Oil	Sunflower Seed Oil	Sardine Oil	Butter Fat
Iodine number	120	131	188	32
Linoleic acid content	45%	61%	0-2%	3%

Physically healthy cooperative schizophrenics were placed on diets containing 100 Gm. protein, 300 mg. cholesterol and Gm. of mixed food fats, in addition to the 100 Gm. of the test oil. Calorie balance was maintained by addition of bread and jelly. Neither sardine nor sunflower oil reduced the serum cholesterol as well as corn oil. He reports:

"The attempt to discover whether the high content of essential fatty acids or high degree of unsaturation is responsible for the cholesterol-depressant action of corn oil had the surprising result of showing that corn oil is remarkable in some way not measured by either of these two characteristics."

He emphasizes that if these observations are to have relevance to human populations, we must keep in mind that no natural human diets approach the situation in which 50 or 60 grams of linoleic acid is ingested daily. As people increase fat intake, they consume more saturated and unsaturated fats (although the increase of the unsaturated is less).

Serum cholesterol levels are related largely to the fat intake rather than to an inverse ratio of essential or unsaturated fatty acids. It would seem wiser to reverse the trend toward luxurious high fat diets, rather than advise the consumption of more vegetable and fish oils as a counter measure. In another article, he states, "The addition of corn oil or any other oil to the American diet can have very little effect on the serum cholesterol level unless very large amounts are used, and this would mean an impossibly high calorie intake. There is no reason to believe that the addition of corn oil . . . to our diets, without other diet changes, could prevent or control coronary heart disease."

Dr. Keys found that the removal of foods high in saturated fatty acids from the diet had a greater effect on reducing serum cholesterol than the inclusion of foods high in unsaturated fatty acids, whereas the combination of the two was more effective than either alone. This is illustrated in table 1:

These figures are for a man at 2600 calories with "normal" cholesterol (under 230 mg. per 100 ml.) on a free diet (high fat). In hypercholesterolemic men, considerably greater responses may be expected.

Although the relationship between hypercholesterolemia and atherosclerosis needs further clarification, it has been shown that the reduction of animal fat and hydrogenated oils in the diet and their replacement with certain vegetable oils and/or marine oils consistently results in a lowering of serum cholesterol levels. One common denominator in these oils is a high content of unsaturated fatty acids, particularly linoleic. These acids may be required for the normal transport of cholesterol as lipoprotein and possibly phospholipid complexes.

Dr. T. B. Van Itallie of Harvard has commented, "If a diet high in vegetable oil content can be devised that is more palatable

Table 1

Diet Change	Fat Composition	Serum Cholesterol Change in a Month
1. Add 1 oz. sunflower seed oil	10% saturated	-5 or 6 mg./100 ml.
2. Remove 1 oz. butterfat	62% linoleic	-15 to 18 mg./100 ml.
3. Both 1 and 2	57% saturated	-20 mg./100 ml.

than a low-fat diet and yet as effective in lowering the level of serum cholesterol, it would seem reasonable to give such a regimen a trial in patients who were formerly maintained with difficulty on diets low in fat" — and again — "the formula type diets do not appear to provide a practical answer to the problem of lowering the serum cholesterol level."

In Japanese studies, notably by Dr. Keys, it was found that the normal diet there, high in vegetable fats and low in animal fats, there is a significantly low incidence of atherosclerosis (so much that many Japanese physicians have never seen a case). Studies on other people throughout the world who have diets less rich in animal fats than those in the United States are being carried out.

(To be continued)

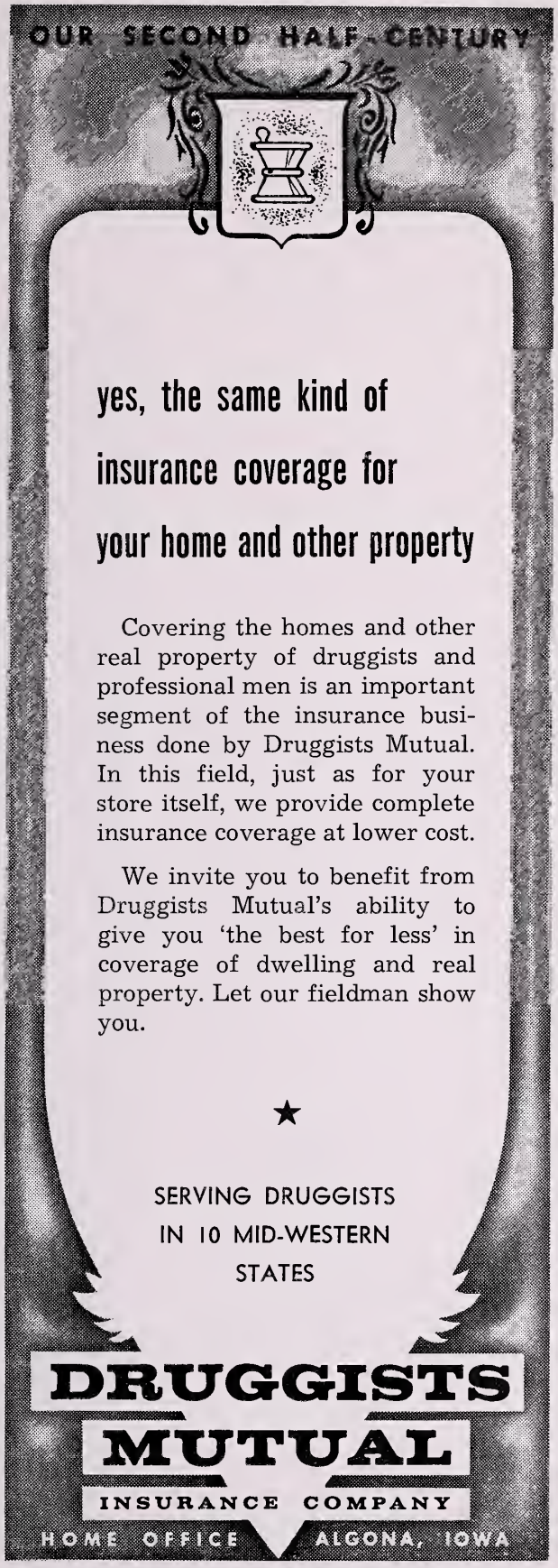
THREE VETERAN SOUTH DAKOTA PHARMACISTS PASS AWAY

The profession of pharmacy in South Dakota recently lost three of its veteran pharmacists. Dear are **C. F. Slate,** veteran South Dakota druggist from Platte; **Victor Peter Wettergreen,** pharmacist from Bridgewater; and **R. E. Trumm,** pioneer Hayti druggist.

C. F. Slate, 93, was one of the oldest registered pharmacists in South Dakota having received his license in 1889. He was born in Iowa and settled in Bowdle before moving to Platte in 1900 where he operated a drug store which still operates under the management of his son-in-law and daughter, Mr. and Mrs. William Quinlan. Mr. Slate had operated the store until his retirement in 1942.

Mr. Wettergreen was born March 18, 1884, in living quarters in the building which has been a drug store since 1881. His parents, Anton and Carolyn Wettergreen, both pharmacists, came from Norway and founded the Wettergreen Drug Store which was owned and operated by three generations of the Wettergreen family for over 77 years.

Hayti druggist R. E. Trumm closed more than a half century career as the town's eldest businessman in point of service when he died in Sioux Valley Hospital recently. Mr. Trumm was born in Ontario, Canada, September 14, 1879. He opened the pharmacy in Hayti on March 26, 1908, having served apprenticeship under the late J. B. Fairchild of Bryant in 1902 and graduating in pharmacy at South Dakota State College.



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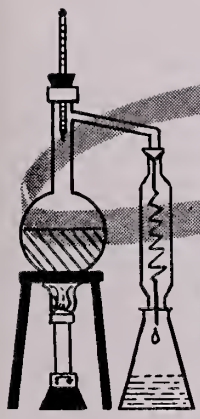
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Advances In Drug Research

IMPROVED SMALLPOX VACCINE

Scientists have improved the world's oldest vaccine.

They have devised a purer form of the smallpox vaccine discovered by Dr. Edward Jenner in 1796 and can now mass produce it quickly in case of an epidemic.

The new vaccine, recently introduced by American Cyanamid Company's Lederle Laboratories Division, utilizes chicken eggs to grow the vaccine. The new process eliminates the bacterial contaminants and strong disinfectants formerly used in smallpox vaccines which often resulted in excessive scarring and local infection. This method is not only faster, but also permits year-around production.

Previously the vaccine was produced in calves and could only be produced during the winter months when outside contaminants such as dust and insects were at a minimum.

Lederle scientists are also working on a dried form of the new vaccine for international use since smallpox epidemics are still prevalent in these areas. For instance, the Pan American Health Organization recently reported that there have been more than 100,000 cases of smallpox and 16,000 deaths due to the disease in Latin America since 1949. The dried product will facilitate transport and storage of the vaccine.

Although routine smallpox vaccination has virtually eliminated the disease as a problem in this country, there have been several outbreaks in the United States since the war.

There were eight deaths among 28 smallpox cases on the West Coast in 1946, and New York City had two deaths and nine cases in 1947. Six million people were vaccinated in New York during that outbreak, and the nation's total vaccine supply was dangerously depleted. With the new vaccine, additional production can be initiated at any time.

Smallpox vaccine is a live virus vaccine. The seed virus Lederle uses to grow the vaccinia or cowpox virus was isolated from scabs of human vaccination in 1909 by the New York City Board of Health. It has been maintained at Lederle by alternate passage through calves, rabbits and humans and has been used continuously for the commercial production of vaccine.

The former method of producing smallpox vaccine involved infecting calves with the virus, collecting the pustules, grinding the material and testing for bacterial contaminants. The new vaccine is made by injecting the eggs with the virus, allowing it to incubate for 72 hours and harvesting the raw vaccine.

Mankind has suffered the ravages of smallpox for at least 3,000 years. The earliest written account of the disease concerns an epi-

demic in China in 1122 B.C. The disease was so prevalent that both the Chinese and the Hindus established female divinities whose prime function was to supervise smallpox. The King James version of the Bible calls one of the Egyptian plaques in Moses' time a "plague of boils breaking into blains."

The first accurate medical description of the disease to appear in print was by the Bishop of Lausanne in 570 A.D. Twelve years later Bishop Gregory of Tours described the disease as an "epidemic disease beginning with fever and backache and attended with a pustular eruption."

It has been estimated that 60 million Europeans were killed by smallpox alone during the 18th century. It was in this atmosphere that Dr. Edward Jenner discovered in 1796 that a disease of cattle called cowpox when transmitted to milkmaids caused a minor infection which appeared to protect them from smallpox.

In a history-making experiment, Jenner vaccinated an eight-year-old boy with material taken from an eruption on a milkmaid's hand. To prove his theory, Jenner waited a few weeks and reinoculated the boy with pure smallpox virus isolated from a victim of the disease. The boy did not get sick and Jenner had ushered in a new era of preventive medicine.

The use of eggs to propagate the cowpox virus goes back to work done by scientists at Vanderbilt University in 1932. Utilizing their findings, Lederle scientists developed the current vaccine which in clinical trial among 4,500 people proved to give immunity identical to that given by the older calf-lymph varieties which had been used commercially since Jenner's time.

TRANQUILIZER RELIEVES MENIERE'S SYNDROME

Vertigo with nausea and vomiting, the most troublesome aspect of Meniere's syndrome, "is quite effectively suppressed" by perphenazine according to a preliminary report by Dr. William Amols of the Presbyterian Hospital, New York (Tranquilizing drugs, **American Journal of Medicine 27:**767 (November) 1959.)

Meniere's syndrome (a disease of the middle ear that is characterized by deafness, vertigo, tinnitus and nystagmus, rolling and ascillation of the eyeballs) was found to respond to treatment with the tranquilizing drug through a chance discovery, he explained.

In a study conducted two years ago by Dr. Amols and his associates, the beneficial effect of perphenazine was discovered in a woman who was very ill with violent vertigo, retching and nystagmus. The injection of a small amount of perphenazine stopped both the retching and vertigo and controlled the nystagmus so that it became "hardly noticeable." When, after a time, the symptoms returned, the investigators administered perphenazine by mouth. The drug made her symptom-free for as long as she continued to take it regularly. After about ten days the condition seemed to disappear.

Following this experience, Dr. Amols and his associates started a clinical study on the usefulness of perphenazine in Meniere's syndrome. While the entire symptom complex of the disease is not eliminated, this preliminary report indicates "the most troublesome component, that of vertigo with nausea and vomiting, is quite effectively suppressed by this drug.

In conclusion he said that more patients will need to be studied for a longer period of time, "but these early observations seem most promising."

Dr. Amols' report was presented as part of the combined Staff Clinics of the College of Physicians and Surgeons, Columbia University, and the Presbyterian Hospital, New York.

CONTROLLED RELEASE DRUG FOR TREATMENT OF SKIN INFECTIONS

Treatment of skin diseases that afflict Americans from head to toe was discussed by specialists from all parts of the country at a conference at the University of Cincinnati College of Medicine recently.

Newest therapy described was a controlled-release drug for preventing and treating skin infections in "devitalized limbs" of elderly persons, particularly the toes of diabetics. Dr. Julius Pomeranze of New York Medical College reported successful treatment of 100 diabetic patients with the new compound, methenamine undecylenate.

The new controlled-release compound, said Dr. Pomeranze, has the unique quality of being inactive when applied as a dry powder.

The active ingredients are released on contact with the moisture of perspiration between the toes and are effective against the bacterial and fungal organisms which often breed perspiration.

Methenamine undecylenate is not available as yet for general medical use. This is the first report on application of the drug in humans.

ASPIRIN VS. BUFFERED ASPIRIN

Water, just plain tap water, is the secret ingredient which reduces stomach acidity when aspirin is swallowed, according to a study reported in the **New England Journal of Medicine** (Dec. 10, 1959) by a team of researchers associated with the Department of Pharmacology and Experimental Therapeutics, Boston University School of Medicine.

The researchers conducted a clinical study to measure the effects on gastric acidity of straight aspirin, buffered aspirin and placebo. They found that each, when swallowed with water, produced a small decrease in gastric acidity, but that there was no significant differences between the mean pH changes produced by the administration of the water alone and the changes produced by the administration of either form of aspirin or of placebo.

Further, they found that in nearly all cases the stomach's acid-alkaline balance was restored to its original state within 30 minutes after taking either aspirin preparation and water, a placebo and water, or just water alone.

The researchers who reported their findings are Robert Rubin, M.A.; E. W. Pelikan, M.D.; and C. J. Kensler, Ph.D. They did a total of 49 controlled experiments with seven normal human subjects between the ages of 22 and 30 years.

In their studies, a method was used which permitted the measurement of acidity within the stomach itself without the necessity of withdrawing samples of gastric juice for chemical testing outside the body. By means of a glass electrode placed inside the stomach they were able to obtain a continuous record of gastric acidity. By other methods which depend upon the withdrawal of gastric juice, acidity measurements can only be made at intervals.

The drugs tested were commercial preparations of aspirin and buffered aspirin bought on the open market. During the study, the subjects did not know if they were swallowing one of the medications or the placebo.

"The results," according to their report in the **New England Journal of Medicine,** "indicate that the magnitudes and the courses of the intra-gastric changes produced by both buffered and unbuffered aspirin preparations (taken orally with 30 ml. of tap water) were not significantly different from the magnitude and time courses of the pH changes produced by the same volume of water taken alone or with a placebo.

"The change in intragastric pH observed when two tablets of either buffered or unbuffered aspirin were administered with a given quantity of water depended almost entirely on the dilution of the acid gastric contents by the water itself, and not on the presence or absence of buffering materials in the drug preparation. The buffering capacity of the buffered aspirin tablets was apparently insufficient to produce a significant reduction in gastric acidity **in vivo.**

"Furthermore," the report continues, "it is obvious that the amount of acid present in acetylsalicylic acid in both the buffered and unbuffered aspirin tablets was insufficient to increase the acidity of the stomach contents significantly when the preparations were given with 30 ml. of tap water."

TISSUE CULTURE CENTER TO BE BUILT

A $1,500,000 tissue culture center, to be built at the Pitman-Moore Company biological laboratories near Zionsville, Indiana, was announced recently.

Because of special features, many of which are based on recommendations by outstanding scientists and new requirements of the U. S. Public Health Service, it will be the first of its kind in the country.

The new building will house the development and production of biological products utilizing the tissue culture method.

Although the procedure has been a research "tool" for several years, one of the first and most outstanding utilizations of tissue culture was Salk polio vaccine in which virus for production is grown on monkey kidney tissue.

Pitman-Moore Company, a major supplier of Salk polio vaccine, is now producing several tissue culture products with three already on the market and several in the clinical evaluation stage.

Describing some of the special features of the new structure, Dr. S. R. Bozeman, vice president and director of the biological laboratories, said that the new tissue culture center will be in three separate sections designed so that no material in the production stage will cross its own path during the process. The sections will include areas with facilities for the production of media, the actual production of vaccine, testing and pooling of the final product.

For years, virologists have known that viruses are difficult to handle, but the full weight of the problem was not known until produced on a commercial scale as in the case of polio vaccine.

Because virus is air-borne, cross contamination is possible, even under above-normal conditions. The minute organism can be carried by personnel on their bodies and in clothing. They can escape through ordinary walls and on equipment.

Each section will be divided into several units, identical in every respect, but entirely isolated from one another. For example, the section planned for the production stage will consist of four distinct laboratories, each divided from the others by double walls and a plastic seal. Such precaution will prevent the passage of the minute viruses through walls from one section to another causing contamination problems.

Nine completely independent air conditioning systems will be installed to assure absolute sterile air throughout the center. Outside air will be "picked up" 120 feet away from the building, and air from the areas will be exhausted 185 feet from the intake source.

All units will be sterilized by live steam containing formalin or by a special gaseous viracidal agent.

Production units will be equipped with airlocks at the entrances so that all containers will be sterilized as they move in and anything leaving the area, with the exception of the product itself, will be sterilized by live steam under pressure to prevent "carrying" live virus to other areas. The product will move through special tubing to sterile containers outside the production room.

Production personnel will be required to shower upon entering and leaving the unit at all times.

In both the media and testing units, operations will be performed under special designed exhaust hoods to prevent exposure of personnel to organisms and at the same time avoid contamination of the product.

Since those other than employees will be restricted from entering the various areas, glass will be utilized as much as possible throughout the center so that operations can be observed without entering the isolated areas.

Construction requirements for the new center are the most rigid of any exercised in construction work at the biological laboratories, according to Dr. Bozeman.

The new building, which will permit handling the production of vaccines under ultra-asceptic conditions provided for by the new construction features, is expected to minimize or eliminate technical problems heretofore common to employment of the tissue culture technique.

In spite of such problems the tissue culture procedure is considered by pharmaceutical scientists as an ideal process. The technician has complete control, along with flexibility, in the growth of organisms used in making the vaccine.

"Tissue culture has opened the door to research and production heretofore essentially impossible," Dr. Bozeman said. "It has opened the door to a new technical world — to new horizons in medicine."

ALDOSTERONE ANTAGONIST

G. D. Searle & Co., Chicago medical research and pharmaceutical manufacturing organization, has under study a drug that is reported in scientific circles as opening a completely new field of therapy for sufferers from edema and ascites.

The new Searle drug, which is being given the tradename Aldactone, is within the new area of aldosterone antagonists and is the result of years of intensive research in the company's laboratories and months of exacting clinical application in leading research hospitals and clinics throughout the nation. The aldosterone antagonists, according to the Searle research staff, produce diuresis through a body mechanism entirely different from those of presently available diuretic agents.

Explaining the technical aspects of Aldac-

(Continued on Page 162)

PRESIDENT'S PAGE

Rx



Fellow Pharmacists:

The alleged high cost of prescription drugs is today a primary topic of conversation. The drug industry is being pictured as a profit monster engaged in a great price gorge upon a defenseless public. It seems to be wrong that American free enterprise has made possible industrial advancement that has made our country a world leader.

The drug industries of the free nations of the world have made greater advancement in the control of disease and suffering in the past few years than in all previous history. I am sure no one today would be willing to give up even one item of modern medication regardless of cost. Yet the techniques of a damning accuser based in many instances on half-truths may well serve to cause lack of confidence and mistrust upon an industry that through the years may well be proud of its accomplishments and purpose.

It is obvious that a need to present our story is a must if the public is to appreciate the facts. All of us have the facts available. Let's use them. As I wrote in October, paying for a prescription can never become a joyful experience, but don't apologize. We can be proud to be in a position to dispense life-saving drugs at prices which, considering the effects of these drugs, are nominal. That's why we can say — Today's prescription is the biggest bargain in history.

Willis Hodson



". . . AND BLESS THE COMING MILLIONS"*

The ninety-three state universities and land-grant institutions of America present an achievement of educational statesmanship unique in the world. In the basic responsibility these institutions discharge, in the complex service that they render, they present the living image of American democracy at work.

Today these publicly-owned colleges and universities exist as an enormous national resource because in every state across the land far-visioned practical men and women, the elected representatives of Americans of all classes, believed with good conscience and firm hearts in the nation's future. The land-grant college, the state university which these men and women created, was without parallel anywhere on earth.

* * *

Almost a century ago this miracle in higher education was a dream such as only a free, imaginative society dares to possess. Among the eloquent spokesmen of that dream was John B. Bowman, first regent (president) of the Agricultural and Mechanical College of Kentucky University (now the University of Kentucky), who said in 1865:

> "I want to build up a people's institution, a great free university, eventually open and accessible to the poorest boy in the land, who may come and receive an education practical and suitable for any business or profession in life. I want to cheapen this whole matter of education, so that, under the broad and expansive influences of our Republican institutions, and our advancing civilization, it may run free, as our great rivers, and bless the coming millions.
>
> "Hitherto, our colleges and universities have been accessible only to the few, such are the expenses attending them. We therefore want a university with all the colleges attached, giving education of the highest order to all classes. We want ample grounds and buildings and libraries, and apparatus, and museums and endowments, and prize funds, and professors of great heads and hearts, men of faith and energy. Indeed we want everything which will make this institution eventually equal to any on this continent. Why should we not have them ? I think we can."

Today the state universities and land-grant institutions are the proud fulfillment of this dream.

* A statement by the American Association of Land-Grant Colleges and State Universities Association on the need for broad educational opportunity of the highest quality through low-cost public higher education.

This living image of American democracy at work can stand sharp scrutiny as a social investment paying proven dividends. Let us strike the balance that these colleges and universities represent:

"Open and accessible to the poorest boy in the land" . . . over the years millions of Americans have been enabled through their education in state colleges and universities to contribute their full talents to serving and strengthening our national life.

"And bless the coming millions" . . . today, more than 390,000 American boys and girls are learning on the campuses of our ninety-three state universities and land-grant institutions how to meet with competence and confidence the challenges of a free world in peril.

"A university with all the colleges attached" . . . today these colleges and universities, owned and used by the people of America for the benefit of their children, represent an investment in classrooms, laboratories, and libraries worth more than three billion dollars.

* * *

But American higher education, charged with the vital responsibility of safeguarding and nourishing our free institutions and ideals, faces today two basic dangers — one from without and one from within.

Every enlightened American, whether plain citizen, educator or legislator must recognize the crisis from without. A slave system of government and a regimented way of life that make man a robot are opposed to our system that draws its creative power and its moral strength from respect for the dignity and decency of every individual.

The challenge from within is not so easily identified. No evil intent motivates it, yet what is happening needs to be better understood.

The strange notion that the ability to afford is more important than the ability to learn leads to the growing demand that students and their families should bear an increasing share of the cost of their education. Each year thereby, capable American boys and girls find the academic gates to educational opportunity closed to them.

More and more the nation's leadership potential is lessened or lost by making personal financial ability the controlling factor in deciding who among our nation's youth shall contribute their fullest abilities to the country's future.

It is as if blandly we are to declare to a rapidly increasing number of American youth:

> "In time of war we will spare no expense in training and equipping you for the risk of death, but in time of peace your pocketbook must be the measure of whether we can use or need you."

* * *

Two premises, entirely false upon examination, support a trend that contradicts the whole philosophy and history of public higher education in America:

The first of these spurious premises insists that higher education benefits only the individual. Therefore, he should pay at once, or borrow, all or most of the cost of his education. The second premise insists that colleges and universities should charge the full cost of education to the individual. This has never been believed possible or sound in either privately or publicly-supported higher education.

* * *

A difficult paradox exists. Confused by an incomplete understanding of the essential function of publicly-supported higher education in our national life, well-intentioned people advance these premises. Yet were there to rise in the land a doctrine intended to undermine the creative genius of American democracy, that doctrine inevitably would yield these outcomes:

First, rigid student-pay-as-you-go education imposes a pattern, dividing debtor students from creditor students. There stands your future graduating class-the solvent few, the indebted many. All must build careers, homes, families to serve America well. How free and equal have we made them for this service?

Second, rigid student-pay-as-you-go education denies the fundamental purpose of American education, which is to render, to the fullest extent of an individual's ability, a service that society needs. This principle supports the entire structure of American life and whatever threatens it endangers business and farm, home and community.

Third, rigid student-pay-as-you-go education tends to place false limits upon the future by transforming "life, liberty and the pursuit of happiness" from "inalienable" to monetary rights.

* * *

This statement is issued in the public interest. The past generations of far-sighted Americans who built the institutions we now call our state universities and land-grant institutions speak to us across the years. And what they say is this:

"The children of the children for whom we dreamed brave dreams and in whom we invested our faith and treasure are now your sons and daughters. You are at once the legatees of the past, guardians of the present, trustees of the future."

* * *

Shall we do less than they?

Shall we believe with fainter hearts in the future of a freedom wrought of the historic American purpose of educational opportunity and its outcomes?

We hold that these questions are the crux of the problem. We hold that in our time, as in the times past, publicly-supported higher education in America will operate, and must operate, as a dynamic force enriching the national life. We hold that the educative process begins with the individual. Yet that individual never stands apart; the underlying wisdom and competence which he possesses finally is a realization that knowledge is only useful when it is shared and channeled into productive pursuits. He may serve business or he may husband the earth; he may become a minister of the Gospel or a minister of government; he may seek to probe the mysteries of outer space or to probe mysteries like cancer that afflict his fellow men.

* * *

In no major country in the world does the college student pay as much of the cost of his education as in present-day America. With higher tuitions, let there be large programs of federal and state scholarships and loans for the less well off, it is suggested. But immediately the range of opportunity is restricted and the reservoir of talent delimited. Low-cost public higher education has been in itself the most generous and productive program of scholarships devised for large numbers by any nation. To turn back from it now would be to turn back from the proven principle of a century and more.

"Founded in the faith that men are ennobled by understanding; dedicated to the advancement of learning and the search for truth; devoted to the instruction of youth and the welfare of the state."

This is the challenge carved in stone on the campus of one of the nation's great land-grant state universities. To meet this challenge, in service to the nation, the low-cost institution of publicly-supported higher education was conceived and must endure.

ADVANCES IN DRUG RESEARCH—

(Continued from Page 158)

tone, Searle scientists said:

"The diuretic effect of Aldactone and related 17-spirolactosteroids is achieved through their ability to block or antagonize the sodium and water-retaining and potassium-excreting effects on the kidney of the adrenal cortical hormone — aldosterone. An excess of this hormone has been demonstrated to be an important factor in causing edema in various clinical disorders.

"Clinical studies, including many carefully controlled electrolyte balance studies, indicate that Aldactone is a safe and highly effective agent, capable of achieving sodium and water excretion even in patients refractory to conventional diuretics, if aldosterone is implicated in the etiology of their edema. If the promise of these studies is borne out by further clinical investigation, Aldactone will provide a highly useful and even lifesaving therapeutic agent for the treatment of edema or ascites associated with such clinical disorders as congestive heart failure, hepatic cirrhosis, the nephrotic syndrome and idiopathic edema, and possibly other disturbances of fluid and electrolyte balance which also are currently being investigated, when aldosterone is a causative factor of the edema or ascites.

"An unusual feature of Aldactone is that, unlike the conventional diuretics, it does not produce potassium loss and, in fact, offsets the potassium loss due to these other agents when administered concomitantly with them. Also, Aldactone exerts a true synergistic effect on sodium and water excretion when administered concurrently with a mercurial or chlorothiazide type of diuretic."

Rx PHARMACY News

PHARMACY SCHOLARSHIP AWARDS ANNOUNCED

Tau Chapter of the Rho Chi national pharmaceutical honor society recently awarded medical dictionaries to two Pharmacy Division students. Honored were Patricia Hauck, Rapid City, and Sharon Mix, Brookings, for being last year's highest ranking freshman and sophomore student respectively.

The dictionaries with the recipient's names imprinted in gold on the covers were presented by the local chapter president, Rodney Nickander, senior pharmacy student from Madison, Minnesota. The awards were made at a recent meeting of the Student Branch of the American Pharmaceutical Association.

These awards were made as a part of a national program by the Rho Chi honor society to recognize outstanding scholarship and to foster an interest in research.

HISTORICAL CALENDAR CONNECTS PHARMACY AND ART

What has pharmacy to do with art? Six full-color reproductions in the 1960 calendar of the American Institute of the History of Pharmacy "testify again to the happy marriage of art and pharmacy, which has been a hidden facet of their profession for many pharmacists," says Ernst Stieb, the Institute's Secretary.

Every member of the Institute has received a copy of the colorful calendar of pharmaceutical art. A limited supply remains available to non-members at $1.50 per copy, Dr. Stieb announced, from the American Institute of the History of Pharmacy office, Madison 6, Wisconsin.

The art reproductions in previous calendars are now out of print, the Institute reports, but collected sets are being preserved in a number of libraries and by individual members.

In the 1960 edition, two illustrations with wide appeal picture 16th century Dutch majolica ointment jars and laboratory glassware.

One of the most famous hospital pharmacies of 18th century Italy, at Vercelli, appears in a painting on another calendar leaf. A physician sits writing prescriptions for the poor, while pharmacists carry out various functions in the front and back rooms of the dispensary. Attractive drug jars line the shelves of the pharmacy.

Also shown is an even

earlier pharmacy interior, in the form of a miniature from a well-known 15th century manuscript on surgery by Guy de Chauliac. The brightly colored miniature depicts a physician dictating a prescription to a pharmacist (or apprentice), who mixes drugs in a mortar.

The remaining two pictures bring an oil portrait of a noted German pharmacist-chemist, Johann C. Barchausen, and an amusing painting by the Dutch master Jan Steen, entitled "The Village Physician." A human skull and stuffed alligator look on, in the latter picture, as a determined practitioner performs minor surgery on a visibly unappreciative patient.

MINNESOTA PHARMACY TRIAL DECISION EXPECTED IN MARCH

A 14-week trial over unregulated sale of drug products in supermarkets and other unlicensed outlets ended in Minneapolis December 16. Hennepin County District Judge William C. Larson is expected to rule in March on the case which has attracted nation-wide interest. Testimony of leading pharmacologists, medical authorities, including Mayo Clinic specialists, was heard for both the defendant and the state. The suit was brought by the State of Minnesota for the State Pharmacy Board against Red Owl Stores, Inc., Minneapolis supermarket chain and Groves-Kelco, Inc., Minneapolis wholesale rack-jobber. The Minnesota State Pharmaceutical Association entered the case as an intervener on the side of the state. The defendants were charged with the illegal sale of eighteen products including Anacin, Alka Seltzer, Bromo-Seltzer, Bufferin, Aspirin Compound Tablets and others. The state sought to establish that these products were not as the defense contended, "harmless, non-habit forming, proprietary drugs and medicines."

Much of the testimony by the expert witnesses for the state concerned the harmful effects of ingredients contained in the preparations involved. Dr. Raymond L. Conklin, defense witness, medical director of Miles Laboratories, Elkhart, Indiana, manufacturers of Alka Seltzer, stated it would be impossible to ingest a sufficient amount of Alka Seltzer to cause poisoning. He said that a massive overdose of Alka Seltzer tablets taken with water would automatically induce vomiting, thereby eliminating any harmful effects.

Dr. P. K. Smith, professor of pharmacology at Georgetown University, Washington, D. C., maintained that Anacin is harmless when taken in recommended dosage.

Testifying for the state on the proprietary issue, Dr. Thomas B. Magath, chief of the division of clinical pathology at Mayo Clinic, said he could duplicate all the products in his laboratory. This runs in opposition to defense claims that manufacturers of the products required secret information.

Dr. Frederick G. Cullen, former executive vice president of the Proprietary Association and presently chief lobbyist in Washington for that organization, was a principal defense witness. Other witnesses appearing for the defense included research chemists, physicians, and clinical researchers for the pharmaceutical companies.

A provision of the state pharmacy act exempts from board jurisdiction those products which are "harmless, non-habit forming proprietary medicines" when properly labeled according to state and federal regulations.

The suit was a re-trial of an original case brought by the board in 1955 before the same court, seeking an injunction against the sale of these 18 products by the defendants. On a technicality, the board's case was rejected by the court on the basis that the agency lacks authority to seek injunctions in such circumstances, but, instead should have filed criminal cases against the defendants.

On appeal to the state Supreme Court, however, the board won the right to prosecute its original case on the basis that injunction suits are the best method of protecting the public against the dangers of the sale of potent medicines by unlicensed retailers.

Judge Larson's decision will be of interest to pharmacists not only in Minnesota but in the neighboring states and the nation.



"ENDOMETRIAL HYPERPLASIA POSSIBLY CAUSED BY SEVERE LIVER DAMAGE"

Brooks Ranney, M.D.
Yankton, South Dakota

Presented for the South Dakota Society of Obstetrics and Gynecology at the Annual Meeting of the South Dakota State Medical Association, Rapid City, South Dakota, Monday, June 21, 1959.
From the Departments of Gynecology and Obstetrics, The Yankton Clinic, Yankton, South Dakota; The University of South Dakota School of Medicine, Vermillion, South Dakota; Sacred Heart Hospital; and The Yankton State Hospital, Yankton South Dakota.

INTRODUCTION:

Cause and effect may be difficult to evaluate. History is replete with man's errors, assigning incorrect causes to specific results. Nor is medical history free from these mistakes.

Nevertheless, when — within a few week's time — I saw two instances of severe endometrial hyperplasia in patients with gross liver damage I became more than generally interested in the probable relationship. I would like to share the pertinent literature, and these two patient-histories with you.

LITERATURE:

In 1934 Zondek[20] first demonstrated a loss of estrogenic potency when rats' livers were incubated with estrogens. He concluded that this deactivation of estrogens was caused by an enzyme in the liver cells which he called "estrinase." Soon thereafter Zondek and Sklow[21, 22] showed that invivo rat livers alter or destroy estrogens.

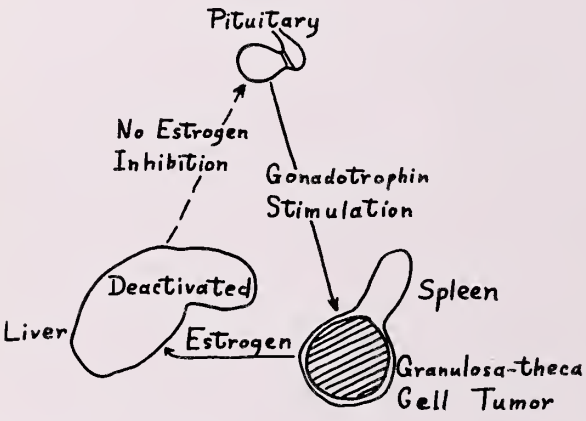
In 1938 Golden and Servinghaus[5] transplanted the ovaries of rats (1) to the mesentery and (2) to the axilla. Estrus did not occur in animals with ovaries in the portal circulation, but estrus did occur in those animals with transplanted ovaries in the axillae. This confirmed the deactivating effect of rats' livers on estrogens.

During the five years, 1939 through 1944,

rats' livers were poisoned with chemicals,[18] partially removed by surgery,[13, 16] or made cirrhotic by dietary deficiencies.[17] In each instance the result was less efficient inactivation of estrogens by the pathologic livers of the experimental rats.

In 1949, Li and Gardner[9] transplanted rats' ovaries into their spleens. Thus, all of the estrogen produced by the implanted ovaries was carried first to the liver (see figure 1).

FIGURE 1



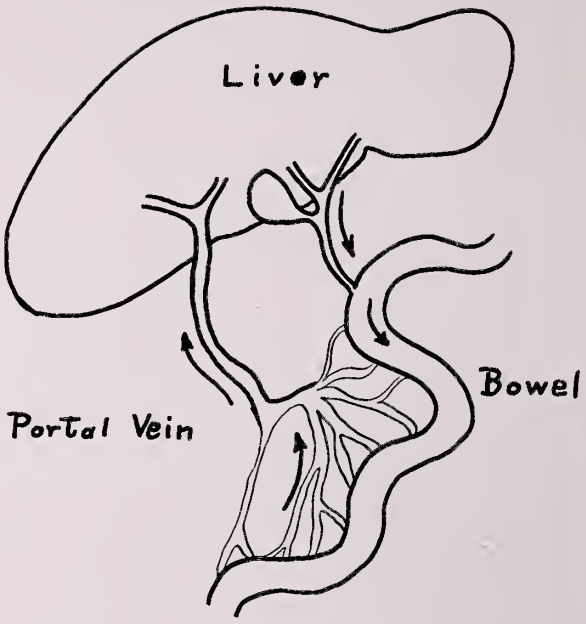
These rats developed **Granulosa-theca cell tumors** of the intrasplenic ovarian implants, because the liver inactivated the estrogens. The estrogen-depleted blood could not normally inhibit the anterior pituitary. The pituitary produced unusual quantities of gonadotropins stimulating the development of the granulosa-theca cell tumors in the responsive ovarian tissue. This experiment confirmed the potency of rats' livers in deactivation of estrogens.

The quality of this liver function had been studied by Longwell and McKee[10] who injected **estrone** into dogs. They obtained more **estrone** in the urine and more **estradial** in the bile of these dogs, and they postulated that estrone is converted to estradial by the liver, where it is then degraded.

In 1942 Twombly and Taylor[19] showed that **human** liver can inactivate alpha-estradial, though somewhat **less rapidly** than livers from rats, dogs, etc.

A year later, Cantorow, et. al.,[2] postulated an **enterohepatic circulation of estrogens,** basing their ideas upon the high level of estrogens which may be found in the bile (see figure 2). These estrogens which are

FIGURE 2

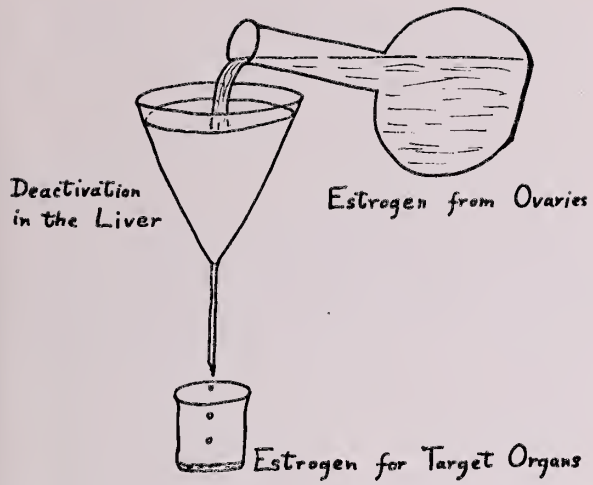


excreted in the bile may be reabsorbed from the intestine into the portal circulation and returned to the liver — permitting the lucky liver a second, or perhaps even a third or fourth chance to reactivate each estrogen molecule!

Pearlman[12] has stated, "The intestinal flora may play a role in effecting chemical changes in the estrogen excreted, since it is well established that the estrogens and other steriods undergo phytochemical change." And he concludes, "What ever the explanation for these phenomena, it is evident that the concentrations of estrogens arriving at the target organs of estrogen stimulation must be at a low level" — in normal persons (see figure 3).

Thus when the liver is functioning normally only a relatively small proportion of active estrogen gets through to the endometrium, vaginal mucosa, endocervix, breast ducts, or anterior pituitary. Of course, the latter gland, by increasing or decreasing the quantity of follicle stimulating hormone, has a reciprocal, regulating effect upon the quantity of active estrogens in the body. But the pituitary gland, like the distraught mother of a dozen unruly children, is subjected to many varying demands and stress at all times, and the response to each one may be

FIGURE 3



insufficient. If the pituitary-ovarian relationship is deficient, and liver function is poor what estrogen response can be expected in humans?

Gilder and Hoagland[3] found that in infectious hepatitis the urinary excretion of estrogen is high and shows a fall during convalescence. Glass, Edmondson, and Soll[4] noticed that male patients with cirrhosis of the liver displayed gynecomastia and testicular atrophy.

One would expect **endometrial hyperplasia,** with intermittent "withdrawal" bleeding, to be associated with the irregularly high levels of active estrogens which should be present in women with **severe liver damage,** and **poor pituitary control.** The following two patient-histories seem to illustrate such a phenomenon.

PATIENT-HISTORIES:

(1) S.M.C., a 45 year old, nulliparous woman, was first seen January 10, 1958, complaining of frequent menses during the preceding year and spotting vaginal bleeding during the last 30 days. She had been seeing her internist for treatment of weakness, tiredness and recurring stomatitis, intermittently during the preceding 18 months. There was a persistently elevated sedimentation rate. Prior to curettage, January 12, her hemoglobin was 10 grams and her WBC was 10,000. Endometrial currettings revealed a mixed pattern: some proliferative areas, some secretory areas, and some pre-menstrual areas, and some hyperplastic areas. The latter, and a large endometrial polyp contained both cystic and adenomatous hyperplasia. Cervical biopsies showed marked thickening of the squamous epithelium of the cervix with some degree of basal cell hyperplasia.

The patient ceased bleeding until mid April, and was next seen June 5th, when she stated she had been spotting and/or bleeding for the preceding seven weeks. Pelvic examination revealed vaginal spotting, an average-sized uterus, and a 6 cm., left ovarian cyst.

An abdominal total hysterectomy and bilateral salpingo-ophorectomy was performed, June 10. Both ovaries were cystic; the left one larger; both grossly typical of follicular cysts. The uterine lining was grossly hyperplastic. **The liver** was **twice normal size** and had a pale, gray fresco over its surface. The borders were sharp, but pale. The gallbladder was normal.

Microscopically, the ovaries showed both follicular and lutein cysts; there was marked stromal hyperplasia. The endometrium was mixed, some proliferative response, some secretory response, and much **adenomatous hyperplasia.** Cervical mucosa showed the same thickening and hyperplasia that was seen in the previous biopsy.

Liver function tests immediately postoperatively were reported negative. However, a repeat cephalin flocculation test several days later was 4 plus, and persisted highly positive through December, 1958. When I last saw the patient, December 9, 1958, the **liver was still about twice normal size,** by percussion. She retained a persistent hypertension of 160/100, but she felt better than she had for sometime, and was able to do her work.

(2) J.K.H., a 61-year old, married woman, was first seen July 7, 1958, complaining of intermittent vaginal bleeding for the preceding 5 weeks. Two years prior, her surgeon had performed a radical mastectomy of the left breast for carcinoma with axillary metastases. Her sedimentation rate was 60 mm.; her hemoglobin was 10.5 grams; her WBC was 8,000. General physical examination revealed only moderate hypertension. A recent chest x-ray was reportedly negative.

Pelvic examination revealed moderate pelvic relaxations and a large, irregularly nodular uterus. The bleeding came from the uterine lumen.

At curettage July 8th, the endometrium

was grossly abundant, yellow, lumpy and friable, so the patient was immediately placed in Trandelenberg position and the abdomen was opened.

The **liver** was **thoroughly studded with 1 to 3 cm. nodules,** grossly typical of metastatic cancer. The ovaries contained a number of small cysts, and the myometrium contained several fibromyomata. Assuming the liver nodules were metastatic breast cancer, I elected to remove the patient's ovaries; and (1) because I could not rule out primary endometrial cancer, and (2) because I wanted to control the patient's blood loss and secondary anemia — I elected to remove her uterus. When the uterus was opened, after removal, the endometrium was grossly typical of **polypoid hyperplasia.**

Microscopically the curettings showed both adenomatous and cystic hyperplasia. Likewise, the endometrium in the uterine sections. There was marked hyperplasia of the endocervix, and many Nabothian cysts were noted. The ovaries showed marked hyperplasia of stromal cells; there was a luteal cyst in the sections.

Cephalin floculation test was positive and total Proteins were lower than normal postoperatively. The patient was given Testosterone as palliative therapy for her breast cancer metestases. She developed epigastric pain, and had a palpable, nodular liver margin in August. In September there was pleural thickening, per x-ray, at the base of the right lung.

During October 1958 the sedimentation rate was 95 mm. WBC 14,000. Hemoglobin 12.7 grams. (This patient is still alive, but she is deteriorating due to pulmonary and cerebral metastases from her mammary cancer.)

DISCUSSION:

Experiments which demonstrated the estrogen — deactivating abilities of the liver have been discussed briefly. In addition, Rogers[14] has demonstrated that conversion of progesterone to pregnanedial takes place in the liver. Thus, it is possible that severe liver damage could result in large quantities of both estrogen and progresterone in the blood stream — assuming poor anterior pituitary function.

It seems logical to theorize that long continued high levels of ovarian hormone in the blood stream could cause endometrial cancer to develop; several researchers favor (15, 6, 11) this viewpoint; others are opposed (7, 1, 8) to it. This remains a moot question.

It seems unlikely that sufficiently severe and prolonged liver damage to cause endometrial hyperplasia occurs very often. Probably it is rare. This phenomenon may contribute to some of the bizarre manifestations of a few toxemias of pregnancy, such as "spider nevi" of the skin, etc.

SUMMARY:

Two instances of marked endometrial hyperplasia associated with, and possibly caused by severe liver damage have been presented. It was assumed that the gonadotropic function of the anterior pituitary was temporarily abnormal.

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Scientific PAPER

"VASCULAR DISEASES TODAY"

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Presented at the South Dakota Chapter of the American Academy of General Practitioners, Sept. 19, 1959, Sioux Falls, S. D.

It is indeed a pleasure to attend this fine meeting today and to meet the members of the South Dakota Academy of General Practice. This is an unusual experience for me as I have never been privileged to address a chapter of the Academy of General Practice before. I am cogizant, however, of the ever-growing size and power of this organization, which now totals some 25,000 members in the United States. This is a unique experience also in that I have never before been to Sioux Falls in the daylight hours. I have been here on one other occasion, as I recall, which was during the pheasant hunting season last year. At that time, we made a rather fast trip from Kimball, South Dakota back to Omaha through Mitchell, Sioux Falls, and Sioux City. As a matter of fact, my only regret about this meeting is the timing. Had it been held a month hence, I could have brought my trusty 16 gauge shotgun and Red Setter along for a combined business and pleasure trip.

I was also caught in the rush before the deadline for the printing of the programs. As a result, I selected a rather broad subject in a field of surgery in which I am most interested, that of cardiovascular surgery. It was my feeling that I could subsequently limit my talk to a smaller subject within this topic

if I saw fit. After some study, I later decided to speak today mostly about the more common diseases of the venous system and arterial system as you encounter them in your everyday practices here in South Dakota.

With regard to the venous system the basic problem, as we see it clinically, is one of venous stasis. With your indulgence I am going to review for a moment the basic patho-physiology of venous disorders, as I think it is only by understanding this pathophysiology that a rational type of therapy can be planned and carried out. The normal venous pressure in a human being is measured at about 15 millimeters of mercury in a vein on the dorsum of the foot. In the presence of severe venous disease, such as the post-phlebitic leg, this pressure rises to three or four feet of blood (75-150 mm. of mercury), that is to say, the entire length of the column of blood between the foot and the right heart. This high peripheral venous pressure is then reflected into the venule end of the capillary and tissue metabolism suffers. It suffers from an accumulation of metabolites in the tissues and from relative hypoxia due to this stagnant circulation. Edema very quickly forms, which compounds the problem. Subsequently this edema leads to the changes that we know as venous stasis dermatitis with its pigmentation and induration. Local infection can also occur in this skin due to bacterial and fungus invasion. Further, this skin is much more liable to injury. Therefore, with or without an injury, a small ulcer may form in this area of stasis dermatitis leading to infection, cellulitis, lymphangitis, more edema and more scarring. A vicious circle is thereby set up, wherein the patient is unable to control the edema in his or her lower leg and recurrent, painful ulceration and cellulitis occurs. Therefore, as I have said before, the basic problem is edema from venous stasis and our therapy must be directed at this basic problem.

Now when one adds to this basic problem some of the additional burdens that our modern society imposes on veins, the problem becomes compounded. Varicose veins are one of the medical liabilities which mankind assumed when he evoluted to the biped stature. There has been a rather admirable attempt of homo sapiens to compensate for this erect stature by the formation of valves, which occur rather regularly in the veins of the saphenous and iliofemoral systems of the lower extremity. These valves do not occur in lower animals, nor do they occur in quadripeds. Moreover, they are subject to damage in many ways resulting in venous stasis and all the problems of the post-phlebitic leg. There are other aspects of modern society which have lent jeopardy to the rather critical balance of blood return from the lower extremity. In the social and economical structure of civilization as we know it today, there are many occupations which require quiet dependency of the lower extremities. This puts quite a strain on these rather delicate valve stations in the legs and subsequently may lead to a breakdown of their function and venous stasis. If you add to this a hereditary predisposition, the occurence of varicose vein disease is much more common. These same patients frequently have evidence of weak connective tissue in other areas of the body. For instance, they will form direct inguinal hernias and are frequently afflicted with hemorrhoids and pes planus. Other insults which modern society heaps upon this venous system are those of tight fitting clothes, such as garters of the upper or lower leg, deliveries under anesthesia in stirrups, and operations. Further, our mode of living sometimes dictates long periods of quiescence mixed with other periods of violent exertion. All these things go to contribute to the breakdown of the venous valve and venous pump mechanism leading to venous stasis.

There are other diseases which are part of the medical liability which mankind has assumed by becoming a biped. I am sure that you are familiar with the rather annoying and ever present problem of low back strain, whether it be from ligamentous strain, herniated nucleus pulposis, spondylolisthesis, facets which have slipped upon one another, or just plain old sciatica. Hemorrhoids, pes planus, genu valgum, and superior mesenteric artery obstruction are other medical problems of the erect man.

What are the "new discoveries" which are available today in the realm of venous diseases? That is to say, are there any new methods of treatment or new ideas with regard to basic patho-physiology which will aid the practitioner in successfully treating the diseases of the venous system? I wish I

had more to offer you in regard to this topic. There has been some research work in this realm and there have been a few new discoveries, some of which I will relate to you. For instance, the venous system has now assumed a rather dynamic role in the circulation. Whereas, it was formally thought that the venous system represented a rather inactive system of tubes serving only as a conduit for the return of blood to the heart, it has now assumed a much more significant and active role. It is now known that the venous system is under the rather discreet control of the sympathetic nervous system. Venospasm is a thing which is well recognized and seems to have a specific function. The venous side of the circulation serves as a part of the blood reservoir of the body, where excesses of blood can be stored for periods of time. It also serves a very important function in the role of cardiac output. This cardiac output, in the presence of good cardiac action, is dependent to a very great extent upon the right atrial pressure and hence the head of pressure available to fill the right atrium and right ventricle during the appropriate phases of the cardiac cycle. When the right atrial pressure can be measured somewhere above normal, which is about O mm. of mercury, it becomes evident that right ventricular filling occurs much more rapidly and the pulse rate and cardiac output increase. The classic example of this sort of situation is the arteriovenous fistula.

There are other areas of relatively "new" discoveries such as, for instance, functional venography. This is a test which has been used off and on for about a decade in the medical centers across the country. More and more evidence has accumulated in this interim regarding the indications and specific uses for this test. Many facts about the flow of blood in both the normal and in the diseased extremity have been learned. In fact, so much has been learned that the indications for functional venography have now become rather specific. At the present time, we only perform this test on patients who have apparent varicose veins of the greater or lesser saphenous system combined with a history suggestive of deep vein thrombophlebitis. In these people, we are most anxious to learn what the status of the iliofemoral vein is and whether the valve stations in the greater saphenous vein system are competent. If by clinical testing the saphenous system is incompetent, the need for functional venography has been obviated. For we now know that blood is propelled centripically in these recanalized iliofemoral veins and in the presence of an incompetent saphenous system, these superficial veins should be stripped out. However, occasionally one encounters a person with thrombo-phlebitis of the deep veins, who has a dilated and tortuous saphenous system representing the best, competent venous return from the lower extremities. These patients can be made worse by a stripping procedure.

Another recent discovery which adds considerably to our therapeutic armamentarium is a type of support for the lower leg which is in trouble with venous stasis. This support was designed by an engineer in conjunction with Dr. W. T. Merle Scott in upstate New York. The name of the appliance is the aero-pulse legging and it is based upon a principle which is well known in the surgery of venous stasis ulcer. This principle states that there is something about the fascial envelope of the muscle tissue of the lower leg which protects that tissue from the ravages of venous stasis. Therefore, Dr. Scott and his engineer-patient designed an aeropulse legging which would play the role of another fascial envelope outside of the skin of the leg. This is a tailor-made appliance which must be measured and fitted to the edema-free leg. It contains an air filled bladder which is pumped up to about 40 mm. of mercury and the bladder is held at this pressure by means of a one way valve. By the use of this device, Dr. Scott has been able to close approximately 80 to 90% of long standing stasis ulcers following phlebitis.

With regard to varicose veins, there have been a few subtle changes in our philosophy of treatment in the past decade or so. There has been a gradual transition to treatment by stripping rather than by high ligation and retrograde perfusion of the vein. The indications for surgery have changed little, and are in many respects symptomatic ones. One must be most careful, however, in selecting these people for surgery that he is not misinterpreting the symptoms of hip disease, low back disability, or other postural deformities.

Thrombophlebitis is a disease entity which is still with us and particularly plagues the surgeon and obstetrician. The distinction between phlebothrombosis and thrombophlebitis is gradually fading in the current surgical and medical literature. The older treatment by femoral vein ligation, has become a rather outmoded operation. When the indication for vein ligation is present, that is to say repeated bouts of pulmonary embolism, the usual procedure of choice is now vena cava ligation. Treatment methods applied to the overt case of thrombophlebitis have not changed very much except for this concept of vena cava ligation. There has been a recent article, written by Dr. Steenberg, again reporting a small series of cases in which pulmonary embolectomy has been done. This operation for years has been more popular in Europe than in the United States and carries with it a rather high mortality. However, it is certainly to be considered in the patient who can lateralize the embolus in the pulmonary artery and who survives the first hour or so of the insult. It has also been found that the measure of wrapping the legs, particularly in the patient with varicose veins or the post-phlebetic leg, is a god type of preventive medicine with regard to pulmonary embolism. It is also a good type of medicine with regard to the patient that you anticipate may be a victim of pulmonary embolism. This disease, as you know, is much more common in older men and women undergoing surgery, in patients undergoing pelvic surgery and hip surgery, and in patients with cancer.

On the arterial side of the ledger, the basic problem is ischemia. Whether the disease entity be that of coarctation of the aorta, arteriosclerosis obliterans, arteritis, vasospastic disorder or cold injury, the problem is almost always one of distal ischemia with insufficient collateral blood supply. A great deal more has been learned about arterial disease than about venous disease in the past decade. Further, our treatment methods have changed more radically with regard to arterial disease. Whereas, it was previously thought that arteriosclerosis was entirely a generalized disease, it is now found that many times it is localized in its most severe manifestations. Further, it is noted that a localized area of severe arteriosclerosis may "protect" the distal arterial tree. For instance, when working with a Leriche Syndrome, one may find that the femoral arteries are relatively uninvoled at the time of surgery. Therefore, our general concept of treatment on the arterial side has changed somewhat.

With regard to arteriosclerosis obliterans, whether it be the aneurysm or the obstructive complication, the attack has become more direct. We are now doing thromboendarterectomies, excision with grafting, or by-pass grafting on many selected patients with obstructive arterial disease. For about a decade now, we have also been doing exicision and grafting of arteriosclerotic aneurysms, which have a tendency to form more in the distal abdominal aorta and the lower portions of the arterial tree. However, arteriosclerosis obliterans can occur in the aortic arch and its first branches and in this region it is again being attacked directly. For example, in the surgical and medical patients that we control at Creighton Medical School, we are now doing immediate cerebral angiography in every patient who comes in with an acute cerebral vascular accident. By this maneuver we are able to pick up a certain number of patients who can operated immediately with endarteractomy and aspiration of clot.

During World War II and the Korean War, we learned a tremendous amount about arterial and cold injuries. The timely reviews of DeBakey, Jahnke, Shumacker, Zipperman, Simone, Spencer, and others, have taught us much about the proper treatment of acute arterial injury. There has been a gradual change in our philosophy toward one of early intervention. Whenever one is faced with a penetrating injury from which there is severe arterial bleeding or a large pulsating hematoma, you can be relatively assured that there has been trauma to a major blood vessel. To avoid the complications of false aneurysm, arteriovenous fistula, and distal ischemia we are now more prone to attack these problems directly with restoration of the normal anatomy. This may frequently involve the interpolation of a plastic prosthesis for an arterial graft.

With regard to the cold injuries, the experience during the war and a rather large amount of experimental evidence accumulated in medical centers across this country

has pointed out many things that now dictate our treatment of these injuries. The role of antibiotics and anticoagulants is known. We now insist that added trauma must be avoided, and this includes the added trauma of rubbing the extremity in snow. These extremities should be brought to room temperature as quickly as is feasible and one must be reluctant to amputate early, as many times the area of necrosis delineates much lower than one would anticipate.

Buerger's Disease seems to be disappearing in this country. As a matter of fact, it is almost becoming a sign of old age in medicine to use the term "Buerger's Disease." More and more investigators and authors are doubting that such as entity actually exists. Many of these cases turn out to be nonspecific arteritis at the time of biopsy, and many of the others are found to be arteriosclerosis obliterans in time. You certainly will not see these diseases frequently and when you do, they will present again with the same major problem, that of ischemia in the distal parts.

Vasospastic disorders are perhaps a little better delineated now than they were ten or twenty years ago. Raynaud's disease is known to occur quite infrequently. This disease, you will remember involves the upper extremities in females and is characterized by intense bilateral symetrical vasospasm, which is episodic. A great many of these cases are found to have associated pathology, usually arteriosclerosis obliterans, and in these people the term Raynaud's phenomena should be used. Acrocyanosis, livedo reticularis, erythromemalgia, airhammer disease, and others in this vasospastic group are occassionally seen. I think that you will do well if you recognize them as vasospastic disorders and subsequently you can refer them to a vascular specialist or review the current feeling about the disease in the literature yourself. Suffice it to say that sympathetic blockade and sympathectomy have found a real place in the treatment of these disorders.

Thrombembolic phenomena continue to occur particularly in patients afflicted with mitral stenosis and in the patient with severe coronary artery disease with infarction or auricular fibrillation. These episodes of embolization are relatively easy to diagnose because of the severity of the symptoms. The localization of the embolus is not difficult because of the ready availability of the pulses in the body. Almost all of these can be operated and should be operated in the early stages of the catastrophy with local anesthesia for most. If possible, the original cardiac lesion which causes the embolic phenomenon should be treated concomitantly or in the early post-operative period. The real problem in this regard comes from differentiating between embolization and thrombosis on an arterio-sclerotic basis. This differential requires a truly skillful clinician and an even more skillful surgeon for proper diagnosis and therapy.

We did percutaneous femoral arteriography performed on both legs of a 56 year old white male, who presented with ischemia of his left foot and an ulcer. Note the diffuse disease of the extremity and the rather intense formation of collateral circulation. You see also how rather discreet the segmental disease of the left femoral artery is. However, the popliteal artery on this side does not appear nodmal and subsequently, on exploration, was rather grossly involved with atherosclerotic plaques. This patient then had a bilateral sympathectomy with subsequent healing of his ulcer. These patients who present with an ulcer, and particularly those who have night pain, are usually far advanced in their arteriosclerosis obliterans. Their prognosis is not good unless successful direct attack can be performed upon the blood vessels.

There was femoral arteriography on a 21 year old Indian male who presented with secondary varicosities and a long left leg. One of our third year medical students was astute enough to make the diagnosis of congenital arteriovenous fistulae, which you see here on the femoral arteriogram. Note the many small flares of dye as the arterioles communicate with the venous retia. Here is the region of the tibia are two arteriovenous communications which involve the cortex of the bone.

We have functional venogrphy on a 41 year old white female who had most of the post-operative complications that one can imagine, including iliofemoral thrombophebitis. This venograph demonstrates very vividly the ragged appearance of the iliofemoral vein and the incompetency of some

of the valves of the superficial saphenous system.

There was an aortogram and distal femoral arteriography of a 62 year old white male, who has a completely obstructed left iliac artery. Note the intense visualization of the renal arteries, the superior mesenteric artery, and the mucosa of the ileum. This points out some of the hazards of aortography, which I feel is used much more frequently than is indicated. This patient had a subsequent aorticofemoral by-pass graft performed.

There were two aortograms which I tossed in just to demonstrate points which I have not been able to stress. Here is aortography demonstrating very nicely an anomalous renal artery with the upper and lower pole of the right kidney being fed by the main renal artery and the middle third of the kidney receiving its blood supply separately from another branch of the aorta. A retrograde aortography shows a false aneurysm of the descending aorta. This has occured right at the region of the ligamentum arteriosum. We are now recognizing more and more these traumatic aneurysms, which are due to the peculiar dynamics of high velocity accidents working against the support of the thoracic aorta.

There was a 52 year old white male presented to us with a large pulsatile mass in the neck after a stabbing. Here we violated one of our own precepts of arterial surgery, because of delay in diagnosis. We did not see this patient until 12 hours after his injury. This hematoma subsequently resolved and he returned 6 weeks later with a large pulsatile mass in the right tonsillar area. This arterioaneurysm of the right carotid artery which was subsequently attacked surgically.

We did a rather pretty arteriogram of a forearm and hand. The dye was injected in the distal brachial artery and these pictures were taken with a fast casette changing technique at one second intervals. You will note the head of the column of dye is just at the distal end of a dilated and tortuous radial artery. One also can visualize the ulnar and interosseous arteries, but it is obvious the radial artery is the major vessel which feeds these congenital arteriovenous aneurysms. One second later, the next slide shows multiple arteriovenous connections and, subsequently, in the venous phase, we note these huge masses in the hand contain dye. The last slide portrays the veins carrying the dye back to the heart. Note also that the digital arteries never fill well in these slides, indicating the distal ischemia that one sees with arteriovenous fistulae. This is just one of the interesting physiological phenomena which occur with arteriovenous fistulation.

There was a twelve year old Chippewa Indian boy who presented to us with massive upper gastrointestinal bleeding. The barium swallow demonstrates nicely the esophageal varices. The next three slides are sequential ones after splenic portography. At splenic portography his portal pressure was elevated to about 500 mm. of water. These slides demonstrate very nicely a large patent portal vein and the collateral channels to the esophageal varices including visualization of the azygos vein. This boy subsequently had a splenectomy with splenorenal shunt. He made a nice clinical and hemotological recovery after this procedure.

In this short talk on venous and arterial diseases, I have had time only to point out some of the rather new concepts and changes in this field. Some of the old precepts of treatment, particularly with regard to the care of the arteriosclerotic extremity remain good ones. These patients must be most careful to avoid extremes in temperature, whether they be hot or cold. The foot must be protected with proper clothing during cold weather and they should not be subjected to hot soaks. Nails and callouses must be trimmed with great care and, in the presence of infection, the patient must be placed at complete rest with appropriate antibiotic coverage. With regard to the venous diseases, some of the older methods for prevention of edema remain good ones. One must at all cost prevent edema, if possible, in these patients. For it is edema and venous stasis that lead to all the difficult problems arising late

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LEUKEMIA PRESENT CONCEPTS OF ETIOLOGY

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Presented before the South Dakota Society of Internal Medicine, School of Medicine, Vermillion, South Dakota, October 2, 1959; sponsored by the South Dakota Division of the American Cancer Society.
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It is almost impossible to discuss leukemia without referring to the classical monograph published by Forkner in 1938.[1] He stated that "Heredity, sex, age, race, trauma, mental and physical states, climate, altitude and other factors have been cited as of importance in the development of the leukemic state, but their relationship probably is incidental and by no means certain." The recent text by Dameshek and Gunz[2] entitled "Leukemia" is a most welcome publication, and contains literally a gold mine of compiled information.

The etiology of leukemia has evaded all investigation, yet here and there are appearing definite gleams of light. We know there are three agents that affect the incidence of human leukemia: heredity, benzol and ionizing radiation.[3] The evidence for heredity and benzol is not yet such as to convince the skeptic. Other factors must also be considered, such as the recent experimental observations on the probable role of virus bodies as possible causative factors. It is also thought-stimulating to see the title of a recent editorial by Dameshek and Schwartz, "Leukemia and Auto-immunization — Some Possible Relationships."[4]

Is Leukemia a Malignancy?

Hope springs eternal that leukemia might be a "metabolic disease," and that there may

be an excess, a deficit or an abnormal formation of some essential substance in the body. Be this as it may, most studies seem to indicate that the disease is neoplastic, a true malignancy. When the cytology of leukemic cells is compared with that of malignant tumors, the resemblance is striking. There are changes in the size of the nucleus and the whole cell. Mitotic figures are frequent in all but chronic lymphatic leukemia. Abnormal maturation and multinucleated cells are observed.

The inter-relationship of the various lymphomas and leukemias is striking. Custer[5] has observed the following transformations: 1) Follicular lymphoblastoma—lymphatic leukemia; 2) lymphosarcoma—lymphatic leukemia; 3) Hodgkins's disease and reticulum cell sarcoma—monocytic leukemia. Histologic classification is difficult. Tumor formation may develop in acute leukemia.

Heredity

It is well known that by means of inbreeding, leukemic strains of mice can be developed. Heredity in humans is more difficult to study since "matings are arranged for reasons far from scientific."[2] Table 1. is of interest in that the data has been obtained not by a careful study of the records of the University of Kansas Medical Center but are those I personally could recall in about thirty minutes. Incidentally, polycythemia vera is included, as few doubts the classification including it as one of the myeloproliferative diseases, which also includes chronic granulocytic leukemia. In Family C, two adult brothers developed leukemia within a period of six months. In Family F, two cousins developed acute leukemia about the same time, one in Kansas City and the other in Dallas, Texas. It is most difficult to erase these startling facts from one's mind.

How common is family incidence? Dameshek and Gunz state that they observed no fewer than six among forty-five recent patients with leukemia who had each lost one close relative from leukemia. Steinberg[6] mentions two families in which three of seven and four of twelve children, respectively, died of acute leukemia. Many other such families have been reported, including the incidence of leukemia in identical and nonidentical twins.

TABLE 1.
FAMILIAL INCIDENCE OF LEUKEMIA
University of Kansas Medical Center

Family A—	2 brothers, chronic lymphatic leukemia
Family B—	2 brothers, chronic lymphatic leukemia
Family C—	2 brothers, acute leukemia
Family D—	2 brothers, acute leukemia
Family E—	1 brother and 1 sister, polycythemia vera; 1 brother, chronic lymphatic leukemia
Family F—	2 cousins—children, acute leukemia at same time
Family G—	Father and son, polycythemia vera
Family H—	Mother and daughter—acute leukemia

The observations of Gross,[7] in which a strain of mice developed a vertical inheritance of leukemia after an injection of AK leukemic extracts, are of extreme interest.

Ionizing Radiation

Probably no subject has been more discussed in recent years in both the lay press and scientific writings, stressing the possibility of ionizing radiation being a cause of leukemia. The incidence of leukemia is abnormally high in the following: 1) Chronic exposure to small doses of radiation; 2) single large doses of radiation (Nagasaki and Hiroshima); and 3) patients given large therapeutic doses of radiation.

Table 2. is a summary of the evidence incriminating ionizing radiation as being leukemogenic. Thus, Witts[3] estimates that 15 per cent of all leukemia deaths could be the result of X-irradiation. This is a controversial subject, yet there is no substitute for the newer improved equipment and trained personnel. I have personally observed leukemia in three radiologists. All had a variant of myelogenous leukemia.

TABLE 2.
EVIDENCE INCRIMINATING IONIZING RADIATION AS LEUKEMOGENIC AGENT

A. Chronic exposure (small doses)
   1. Radium (watch dial painters) — "leukemic" bone marrow
   2. Physicians — 1.7 x increased incidence leukemia
   3. Radiologists — 9 x increased incidence leukemia
B. Single large dose of radiation (atomic bombs)
   1. Rise in incidence from 1 to 10,000 in unirradiated to 1 in 100 in most heavily irradiated group
   2. Majority are either acute, subacute or chronic myelogenous leukemia
C. Large therapeutic dose of X-ray
   1. Ankylosing spondylitis — incidence 10 x that of control group
   2. Children — thymic radiation
   3. Children — mothers having diagnositic X-ray of abdomen during pregnancy
D. Isotope therapy
   1. Acute leukemia in I^{131} treated thyroid malignancy
   2. Acute leukemia — possibly increased in P^{32} treated polycythemia vera

The therapeutic use of isotopes has caused some concern. Leukemia has appeared in individuals treated with I^{131} for malignancies of the thyroid gland. The opinion has been expressed that P^{32} therapy has increased the incidence of leukemia in polycythemia vera.

Benzol

Benzol (benzene) is the only chemical substance that seems to be seriously considered as a leukemogenic agent. The clinical and pathological data is more than suggestive, but the experimental data is not confirmatory. We recently were required to review the entire subject because of the legal aspects involved.

Perhaps the statements of Mallory, Gall and Brickley[8] summarize the thoughts of many investigators. Histologic material from nineteen patients with a history of chronic exposure to benzene was analyzed and described. Not merely the bone marrow but the entire hematopoietic system showed changes. Five cases with typical leukemia were observed. These authors state: "The degree of anaplasia, the rapidity of growth as judged by the number of mitotic figures, the development of cells having no counterpart in normal tissues but common to a variety of malignant tumors are phenomena characteristic of neoplasia which the authors have never heretofore met in such marked degrees in non-neoplastic states. Certainly, no more favorable conditions for the development of neoplasm can be imagined than prolonged and intense stimulation of reproductive activity and simultaneous arrest of maturation."

Other aromatic solvents must be considered as possible etiologic factors. "Leukemia is probably no accident and any bearing on its etiology has importance."[2]

Virus Etiology

Perhaps the best review of the virus theory of the etiology of leukemia is by a senior medical student of our University.[9] His entire discussion is given herewith.

"Now that the experimental evidence has been presented, the time for correlation, consideration and conclusion has arrived. First, evidence has been presented which strongly indicates that there is present in the body of a leukemic animal an agent which is either not present in the normal animal or present in such small quantities as to be undetectable. The evidence included histologic, immunologic, and transmission studies. Second, the agent was shown to consistently reproduce the disease in susceptible host animals. The agent when properly isolated and inoculated, caused a highly significant increase in the incidence of leukemia. Even the cell-free filtrate from human leukemia victims caused a typical leukemia in mice. The filtrate would induce a type of leukemia in a foreign strain of mice that was similar to the leukemia in the donor strain, but in most cases it could not be transmitted back to the donor strain by cell suspension. This was not a general characteristic of the agent-induced leukemias, but was noted in a large portion of them. The filtrate-induced leukemias were shown to be histologically a duplication of spontaneous leukemia. Third, the agent does show evidence of replication in the host. Very dilute inoculums of the filtrate can induce the disease in mice, and the organs of the new host can be used to prepare filtrates which in high dilution will reproduce the disease. Finally, the agent has been shown to pass through many filters and still induce the disease. Since the leukemic agent does fulfill all the accepted standards, there is no real purpose to be served in denying it the title of 'virus.' Discovery of the leukemic viruses and the acceptance of them does not make the disease itself any less frustrating or, presently, any more understandable. Obviously the virus itself is not the whole answer to the question, 'What is the etiology of leukemia?' However, I believe that a leukemic virus is part of the answer to the etiology of some or all of mammalian leukemias."

Leukemia and Auto-immunization

The recent editorial by Dameshek and Schwartz,[4] entitled "Leukemia and Auto-immunization — Some Possible Relationships," is indeed thought-stimulating. Only a few excerpts will be given. The auto-immune type of leukocytic reaction has many points of similarity with the leukemic process. In both, something seems to have occurred to change the growth habits of a group or groups of white cell tissues. In both, an abnormal proliferation may be initiated by a totally extraneous agent such as ionizing radiation, chemical, or virus which may conceivably induce the development of a new

"race" of cells, possibly by enzyme deletion, leading to somatic mutation. In both, the proliferation, once begun, is self-replicating, and in both, the abnormal cellular tissue, whether leukemic or immunologic, may result in the formation of abnormal proteins. There are, furthermore, some leukemic disorders in which immunologic or dysproteinemic abnormalities are simultaneously present; such disorders may conceivably offer important clues regarding both leukemia and auto-immunologic disease.

Is this a ridiculous assumption? I refer you again to the response of the entire hematopoietic system to benzol. Recently, a patient was observed who had been under constant observation for two years with periarteritis nodosa. The difference on his last admission — acute leukemia! Also, a woman who has been observed by us for about seven years with slight anemia, a moderately positive Coomb's test and in whom a splenectomy had been done when first observed. Imagine our consternation when the blood count and bone marrow revealed a leukemic disease! These are not the only examples we have seen that influence us not to dismiss lightly the subject of leukemia and auto-immunization and their possible relationship.

Conclusion

The etiology of leukemia is not known, yet certain factors may be leukemogenic. Thus, heredity, ionizing radiation, benzol and viruses have been incriminated. The next decade will be a most exciting one to observe. Perhaps the time is much closer than we realize when the etiology of leukemia will be well known. Certainly, when the cause is evident, more specific therapeutic measures may be employed.

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"VASCULAR DISEASES TODAY"—

(Continued from Page 174)

in the course of these diseases. For instance, the patient with phlebo-thrombosis post-operatively or after a delivery poses a problem. The physician in charge of this patient has a moral and medical obligation to warn the patient about subsequent edema and to help this patient in the control of this edema. This may require anything from nothing to elastic stockings, ace bandages, double thicknesses of ace bandages, Unna paste boots, or aeropulse leggings.

NEW BOOKLET ON INBORN HEART DEFECTS PUBLISHED AS GUIDE TO PARENTS

A new booklet, "If Your Child Has a Congenital Heart Defect," suitable for distribution by physicians to parents of patients with operable cardiac defects, has been published by the American Heart Association and its affiliates.

The 48-page, illustrated volume is designed to prepare parents for the events that may follow a preliminary diagnosis of congenital heart disease in their child, including additional diagnostic tests, hospitalization, surgery, convalescence at home and the transition to normal living.

Pointing out that recent advances in diagnosis and surgery make it possible to operate successfully on inborn heart conditions once considered hopeless, the booklet provides explanations and diagrams of some of the more common defects which may be completely or partially corrected by surgery. It also describes sources of community help in obtaining medical and surgical care for congenital heart patients. It is obtainable from the South Dakota Heart Association, 125 South Main, Sioux Falls.



A RATIONAL APPROACH TO SCHOOL HEALTH PROGRAMS

Warren Anderson, M.D.
Sioux Falls, S. Dak.

Presented at the 78th Annual Meeting of the SDSMA — June 23, 1959.

I would like to speak to you today, not only as a pediatrician with a sincere interest in the health of our children, but also as Chairman of the State Committee on School Health for the past year. This paper in many respects is a reiteration of the report our committee submitted to the House of Delegates this year. We feel the problem of school health policies deserves more consideration than just a report that is read by very few physicians.

It is our hope that physicians throughout the state can be induced to take a more active part in determining school health policies in their communities. We have no argument with the fact that everyone is busy but this is an excuse we cannot accept. It is a duty we owe to our community and our children.

The National Committee on School Health Policies states the problem more clearly than I could ever do. It states that "Every school has health policies. Written or not written, consistent or inconsistent, in or out of tune and touch with the best informed professional opinion, these policies affect the present and future welfare of all school personnel, teachers, as well as pupils."

During the past 4 years, the State Medical Association endorsed the following recom-

mendations of past School Health Committees:

1. Every District Medical Society should have an **active** committee on school health.
2. General participation and cooperation of every physician with local school health service programs.
3. The medical profession should assist in the development of adequate cumulative health records and facilitation of the proper interpretation of data among school, family doctor, and parents.

It is all too apparent that on a state-wide basis these recommendations have received only lip service or no attention at all. It behooves us all to focus our attention on the responsibilities we owe as a Society and also as individual physicians.

What are the responsibilities of the Society?

On a National basis, the Medical Societies seem to accept as their role in the school health program, the following functions at least and, in many cases, many more:

1. Participation in formulating recommendations for the control of communicable diseases in school children.
2. Help design standards and procedures for the medical examination of school children.
3. Help formulate procedures for a 2-way exchange of information about children between school health personnel and the family physician.
4. Participation in development of cumulative school health records.
5. Participation in developing patterns for assuring needed medical care for school children whose families cannot afford to pay for services.
6. Recommend standard procedures for emergency care of accidents and sudden illness at school.
7. Assistance in formulating policies for school health of participants in intramural and intra-school sports.
8. Assistance in development of standards for pre-employment and periodic health certification of school personnel.
9. Assistance in establishment of health appraisal standards, including medical examinations, teachers' observations, and such screening tests as visual, auditory, TV, etc.

Where do we stand on a state-wide basis?

1. Many schools are in the position of having no health record of any kind. The State Department of Health has a form available upon request but schools are not required to have the records; also, it would appear that the form now available is in need of revision.
2. Many schools have no information as to the physical condition of their pupils. A pupil may have a serious cardiac, visual, hearing, central nervous system disease, etc., without any awareness of the condition by the teacher or allowance being made.
3. Many schools have no immunization records. The pupil may enter and graduate without the staff knowing what diseases the child has had or has protection against. In many schools, no attempts are made to maintain immunity, much less obtain the original series.
4. No uniform recommendations as to the control of communicable diseases are being carried out.

Need we mention more?

It certainly must be shockingly aware to all of us that the present situation should not be allowed to exist. We are not laying the blame at anyone's doorstep, nor are we unrealistic enough to feel the situation can be changed over-night. Only by a concerted combined effort or parents, PTA's, educators, health officers, doctors, dentists, and allied organizations, will it ever be accomplished.

It does, however, behoove us as physicians to make some concrete recommendations as to what should be considered as basic requirements for a **minimum** school health program. Many State Medical Associations have such stated recommendations on record. It is time that the South Dakota State Association does likewise.

The School Health Committee, has, therefore, submitted the following recommendations. This should be considered as a starting point and over the years, a more complete and revised policy should come into being. This resolution was Adopted by the House of Delegates of the Annual Session 1958-59 in Rapid City.

"LET IT BE RESOLVED, That the Committee on School Health of the State Medical Society of South Dakota sets forth the following principles for the guidance of parents, teachers, physicians, and all parties concerned with the educational system of our State:

♯1. Parents have the primary responsibility for the health of their children. The health efforts of schools, health departments, and other agencies should be so conducted as to help parents recognize and assume their responsibilities.

♯2. School health policies should be formulated to achieve the maximum cooperation and coordination within each school and each school system, and between the school and the community.

♯3. Committees should be organized on various levels — school, city, district — the members to vary from parents, teachers and nurse, if possible, in the single schools, to include all interested groups when available at district level. At district level, this school health committee or council might include representatives of the following groups: School administrators, nurses, teachers, PTA's, medical profession, dental profession, health agencies, civic agencies and custodians. Suggestions they develop for changes in school health procedures should be presented to the proper administrators for approval and action.

♯4. The publication "Suggested School Health Policies," available through the State Department of Health, should be acquired and used as a guide in all schools unless other specific policies have been formulated, and as an aid for future revisions of present policy.

♯5. Every pupil should have a cumulative health record maintained in the school.

♯6. Every pupil should have an immunization record and a concerted effort made to maintain protection by encouraging proper immunization and boosters.

♯7. Every school should have a planned written program for the care of emergencies. In case of accident or sudden illness, the school should have responsibility for giving immediate care, for notifying parents, for getting children home or to some place of safety, and for guiding parents, where necessary, to sources of treatment.

♯8. A proper chart referrable to communicable disease control should be readily available in each school for uniform conformance by parents and teachers alike."

This completes our Resolution; however, we recommend that the Association encourage consideration by the representatives who will be on the above district committees of the following suggestions:

♯1. A uniform communicable disease chart be devised by this committee and its use suggested for **all** schools.

♯2. A uniform health record be recommended to the schools and State Health Department based on a revised form rather than the State Health form now available.

♯3. A uniform immunization policy to be worked out through cooperation of the State Medical Association, state officers of the American Academy of Pediatrics, and the State Department of Health.

♯4. Whenever possible, the family physician should conduct the entrance and periodic examinations of school children and perform the diagnostic procedures for those referred for what appear to be specific health problems.

♯5. A state-wide form be devised for recording the physical findings and recommendations of the family physician. This form would then be sent to the school to become a part of the cumulative health record.

♯6. The pamphlet "Handbook for Emergencies," available from the Office of Civil Defense, might serve as a guide for an emergency program.

The committee feels that a communicable disease chart-similar if not identical to the one in use at the present time in Sioux Falls — should be in all schools throughout the state. (Chart ♯1). This is a large chart which can be easily tacked up on the back of a classroom closet door for ready reference.

During the coming year, further work must be done by our society to bring definite recommendations as to what we feel the cumulative health record should be.

SIOUX FALLS PUBLIC SCHOOLS

SIOUX FALLS, SOUTH DAKOTA

General Information on Communicable Diseases

Approved by Local Board of Health

DISEASE	INCURATION PERIOD	EARLY SIGNS AND SYMPTOMS	MODE OF SPREAD	PERIOD OF COMMUNICABILITY	RULES FOR SCHOOL ATTENDANCE	IMPORTANT FACTS TO REMEMBER
Acute Anterior Poliomyelitis Infantile Paralysis	7-14 days	Onset variable, usually sudden. Headache, fever, nausea, drowsiness, slight sore throat, irritability, pain in back of neck, stiffness in spine and paralysis of usually one or more extremities.	Nose and throat or bowel discharges of infected individual or carrier.	Probably covered by last part of incubation period and first two weeks of disease.	Infected individuals are to be isolated for a period of two weeks. Exposed children in household may come to school—watch carefully.	Susceptibility to infection is general—children from 1-16 years of age more frequently attacked than adults.
Chicken Pox Varicella	14-21 days	Slight fever, generalized ill feeling, pimple-like eruption at first changing to small blister-like eruption. The rash appears in crops and may be abundant on any part of the body.	Spreads directly from person to person and indirectly through articles soiled by discharges (nose and throat) of an infected person.	Is not contagious 10 days after first appearance of eruption. Until primary lesions have healed and scabs are off.	Cases must be excluded from school until all scabs are gone—or minimum of 10 days—contacts may come to school. Inspect daily.	This is a mild disease with very few after-effects—very contagious.
Diphtheria	2-5 days	Onset may be gradual or rapid. Early signs are fever, sore throat with grayish-white patches on throat or palate. Glands at angle of jaw may be swollen. Later there may be profound prostration.	1. Direct contact with a patient—a convalescent or carrier. 2. Indirect contact: (a) Droplets spread by coughing, sneezing or spitting; (b) articles contaminated; (c) contaminated milk.	While virulent organisms are present in lesions and secretions.	Quarantine until 2 negative throat and nose cultures taken not less than 24 hours apart are obtained.	Report to health officer immediately. Diphtheria is a serious and often fatal disease. Immunization with Toxoid prevents Diphtheria.
Measles (Red Measles)	8-10 days	A marked coryza, cough, reddened eyes, discomfort from light. Rash usually appears one or two days after onset of disease. Usually first seen on forehead and face—spreads rapidly over the body.	Measles is infectious even before rash appears. Spread by contact with those having the disease, through nose and mouth secretions and articles soiled therewith.	During the period of catarrhal symptoms and while there are abnormal mucous membrane secretions. Minimum period 9 days before rash appears to 5 days after it appears.	Children with the disease should be isolated for a minimum of 10 days. Contacts may come to school but should be inspected daily by teacher and excluded if necessary.	Measles is a very dangerous disease in young children. Those children under 3 years of age should be kept strictly away from any case or suspected case.
3 Day Measles	10-21 days	Mild fever, accompanied by a rash sometimes resembling Scarlet Fever.	Direct contact and from secretion of the mouth and possibly the nose.	From onset of catarrhal symptoms for at least 4 days, not more than 7.	Minimum of 5 days.	Preventive measures: None—correct diagnosis important to distinguish this disease from scarlet fever in its early stages.
Mumps	12-28 days	Onset may be sudden or gradual. A slight fever, nausea, pain and swelling of glands just in front of the ear.	By direct contact with an infected person and through nose and mouth discharges.	Probably until all signs of swelling have disappeared.	Children having disease are excluded until all swelling has disappeared. Minimum 7 days—contacts may come to school. Watch carefully.	Individuals infected with mumps should be given good care in proper surroundings to prevent transferral of the infection to other glands of the body.
Scarlet Fever (Scarlatina) (Scarlet Rash)	3-4 days	Onset sudden, fever, sore throat, nausea, vomiting. Rash generally appears on 2nd or 3rd day produces red flush to skin. Throat and tongue may show marked redness very early.	1. Direct contact with a patient. 2. Indirect contact: (a) Droplets spread by coughing, sneezing or spitting; (b) articles contaminated; (c) contaminated milk.	In uncomplicated cases, spreading infection is ordinarily past in a few days after clinical recovery. Patients with complications are capable of spreading disease over longer periods.	Children having scarlet fever if receiving treatment may return to school after 1 week if they have doctor's permit. Contacts having prophylactic treatment on doctor's written permit may enter immediately. Children with disease not having treatment must stay out 2 weeks. Contacts having no treatment must be out 1 week.	Scarlet fever is a very dangerous disease although it may seem light. It often affects kidneys, heart, throat, ears and leaves permanent disabilities.
Smallpox (Variola)	8-16 days	Onset sudden, chills, fever, nausea, backache. Spotty appearance on skin 3rd day, which turns to blisters then changes to pockets of pus.	Contact with those having or coming down with smallpox. Articles soiled with secretions from sick individuals are infectious.	Danger of spreading smallpox is from first symptoms until disappearance of all crusts. Smallpox cases must be isolated until danger of spreading is passed.	All contacts shall be insolated until vaccinated and daily examined until height of vaccination reaction is passed provided vaccination was performed within 24 hours after exposure. If not vaccinated within that time, isolate for 16 days beginning the last day of exposure.	Smallpox is a disease of choice. If one does not wish to have it, he may be vaccinated. Your family physician will explain this to you in detail.
Whooping Cough (Pertussis)	5-21 days	Highly contagious disease. First symptoms coryza or bronchitis, associated with a short barking cough progressively nervous and explosive in character—resulting in the terminal "whoop."	By contact with those having the disease, through discharges from nose and throat.	Children having whooping cough can give disease before and after development of whoop. Particularly contagious early in the disease before "whoop" develops, generally 3 weeks after "whoop" develops.	Contacts may come to school but should be watched carefully. Child having disease must be out a minimum of 4 weeks.	Whooping cough is especially dangerous in very young children, and may cause prolonged debility.
Infectious Hepatitis Yellow Jaundice	15-40 days Average 25 days	Early symptoms usually include fever, nausea, fatigue, headache. Jaundice usually appears.	Undetermined. Perhaps discharges from nose and mouth and from alimentary tract of infected persons.	Unknown.	Exclude from school. Before re-entering must have signed statement from the doctor that liver and urine are functioning normally.	Susceptibility is general. Bed rest imperative. Doctor's care important.
SCABIES OR ITCH An infectious eruption found frequently on wrists, between fingers, and on abdomen. Very contagious. Children should be excluded from school.		**PINK EYE** A pupil having inflammation of the eyes should be excluded from school. Should remain home until eyes are clear.	**COMMON COLDS** During an epidemic of scarlet fever, diphtheria, whooping cough or measles, every child with a cold should be excluded from school.	**BODY RING WORM** Ring worm usually begins as a small red scaly patch, gradually increases in size. Exclude from school unless under treatment. Infected area should be covered if child is in school.	**IMPETIGO OR CONTAGIOUS SORES** A disease characterized by pustules appearing on face, neck, and hands—occasionally on body. Exclude from school until area is healed.	**PEDICULOSIS OR HEAD-LICE** Exclude child having head-lice from school. An effective treatment is to anoint head with equal parts of kerosene and vinegar. Wrap head in towel over night. Shampoo in morning. Repeat in 10 days to destroy lice that may have hatched in the meantime.
Scalp Ringworm	Undetermined	Scalp may have localized round scaly patches with short broken hairs. Infected hairs.	Direct contact from person to person with lesions of infected persons. Possibly articles of clothing or surfaces contaminated with scales or hairs from lesions.	Undetermined.	Infected child may be in school if he is under treatment and is wearing a close-fitting washable cap that covers head. Must wear cap until word is received in writing from the doctor that it is no longer necessary.	Susceptibility in children is universal. Re-infection is common. No immunity after recovery. Infection rare after puberty. Adults are susceptible.

DIPHTHERIA can be prevented by vaccination with toxoid. Vaccinate child when 6 or 8 months old.

SMALLPOX—Vaccination prevents smallpox. Children should be vaccinated at 6 months.

WHOOPING COUGH may be prevented by vaccination. Vaccinate at 6 months of age.

Chart #1

SIOUX FALLS PUBLIC SCHOOLS
HEALTH DEPARTMENT

NAME _____

To Be Completed by Physician and Returned to School

HISTORY		IMMUNIZATION—DATES		
	Date		Orig. Series	Booster
Red measles		D.P.T. Triple		
Three-day measles		Tetanus		
Small-pox		Diphtheria		
Chicken-pox		Schick		
Mumps		Small-pox		
Diphtheria		Tbc. test		
Scarlet fever		Polio		
Polio		Other		
Rheumatic fever				

Other diseases and abnormalities as: epilepsy, diabetes, Tbc.-contact, operations.
Orthopedic: _____

DOCTOR'S EXAMINATION (*please date*)		RECOMMENDATIONS AND COMMENTS ON POSITIVE FINDINGS.
Height		
Weight		
Speech defect		
E.N.T.		
Teeth		
Heart murmur		
Lungs		
Blood pressure		
Eczema		
Allergy		
Hernia		
Flat feet		
Athlete's foot		

Check Positive Findings (/) Negative (o)

DOCTOR'S SIGNATURE _____

The state-wide form for physical examination, immunization, etc., in the doctor's office might follow the one now in use in Vermillion or the form in use in Sioux Falls.

Since the presentation of this paper it has come to the attention of our committee that the American Academy of Pediatrics has come out with a 1959 revision of their history and physical form for use in the office. This form can be used both for preschool examinations and camp examinations. Perhaps this form should be the one to use for state wide conformity (chart 3 and 4). At least at present this is the form our committee will be recommending for consideration.

We hope the physicians of the state will communicate with the members of the School Health Committee so the most satisfactory recommendations may be made at the next annual meeting of our State Medical Association.

STANDARD HEALTH EXAMINATION RECORD

AMERICAN ACADEMY OF PEDIATRICS, INC. ©1959

(THIS PART TO BE FILLED IN BY PARENT BEFORE PRESENTATION TO PHYSICIAN)

ORGANIZATION OR SCHOOL _____

NAME _____ (LAST FIRST) PARENT OR GUARDIAN _____ PHONE _____

ADDRESS _____ BIRTH DATE _____ AGE _____ SEX _____

_____ RELIGION _____

PAST ILLNESSES: (CHECK — GIVING APPROX. DATES)

FREQUENT COLDS _____ STOMACH UPSETS _____
FREQUENT SORE THROATS _____ KIDNEY TROUBLE _____
SINUSITIS _____ HEART TROUBLE _____
ABSCESSED EARS _____ RHEUM. FEVER _____
BRONCHITIS _____ CONVULSIONS _____
ASTHMA _____ TUBERCULOSIS _____
ALLERGIES _____ DIABETES _____
OPERATIONS OR SERIOUS INJURIES _____
SERIOUS IVY POISONING _____

DISEASES (DATE)

CHICKEN POX _____
MEASLES _____
MUMPS _____
SCARLET FEVER _____
POLIOMYELITIS _____
WHOOPING COUGH _____
_____

SUGGESTIONS FROM PARENTS:

OTHER DISEASES OR DETAILS OF ABOVE _____

COMMENTS FOR CAMP:

BEHAVIOR _____ SLEEP WALKING _____ BED WETTING _____ NIGHT TERRORS _____
FAINTING _____ MENSTRUATION _____ CONSTIPATION _____ OTHER _____
ANY CONTRA-INDICATION TO SWIMMING? _____ TO DIVING? _____
ANY SPECIFIC ACTIVITIES TO BE ENCOURAGED? _____ ANY RESTRICTED? _____
IS STUDENT UNDER ANY SPECIAL MEDICAL OR DIETARY REGIMEN TO BE CONTINUED? _____

IMMUNIZATIONS

IMMUNIZATIONS	DATE PRIMARY SERIES COMPLETED	DATE OF LAST BOOSTER
WHOOPING COUGH		
DIPHTHERIA		
TETANUS		
POLIOMYELITIS		
SMALLPOX		
OTHER		

TUBERCULIN TEST ——— DATE ——— RESULT

PHYSICIANS COMMENTS AND RECOMMENDATIONS

THIS PERSON IS IN SATISFACTORY CONDITION AND MAY ENGAGE IN ALL USUAL ACTIVITIES EXCEPT AS NOTED.

——— M.D.

ADDRESS ———

PHYSICAL EXAMINATION
(BY LICENSED M. D.)

DATE OF EXAMINATION ———

HEIGHT ——— WEIGHT ———

MUSCULOSKELETAL

SKIN

SCABIES
ATHLETES FOOT
IMPETIGO
OTHER

EYES ——— VISION: R 20/——— L 20/———

EARS ——— HEARING ———

NOSE ———

THROAT ———

TEETH ———

HEART ———

LUNGS ———

ABDOMEN

GENITALIA

HERNIA

URINALYSIS ———

MEETING OF COMMITTEE ON PREPAYMENT AND INSURANCE PLANS

Huron, S. D.
February 24, 1960

Chairman D. H. Breit, M.D., called the meeting to order at 1:30 P.M. Drs. Breit, H. Russell Brown, and Paul Hohm, and executive secretary Foster were present. Drs. J. J. Feehan, J. P. Steele, Roscoe Dean, and E. A. Johnson were absent.

The committee discussed the relative value scale as presented to them by the Fee Advisory Committee. Various changes were made as the committee studied the scale item by item.

On motion the revised study was accepted for referral to the Council and the District Societies.

Further action concerned transmittal of background information to the Council.

The meeting adjourned on motion at 5:00 P.M.

CANCER CONFERENCE IN MINNEAPOLIS

The Fourth National Cancer Conference, sponsored by the American Cancer Society and the National Cancer Institute will be held in Minneapolis, September 13-15.

The theme of the meeting will be "Changing Concepts concerning Cancer" and will feature symposia on cancer of the breast, cancer of the lung, cancer of the female genital tract, cancer of the gastrointestinal tract, etc.

Some of the participants on the program will be Dr. Alton B. Ochsner, Dr. Joe V. Meigs, Dr. Warren H. Cole, Dr. Herman E. Hilleboe, Dr. Owen H. Wangensteen, Dr. I. S. Ravdin, and others.

Information can be obtained from the Medical Affairs Department of the American Cancer Society, 521 West 57th Street, New York 19, New York.



Closed Panel Health Care Programs and Their Influence on Existing Forms of Voluntary Health Care Mechanisms

H. Russell Brown, M.D.
Watertown, South Dakota

Address before 1960 Blue Shield Professional Relations Conference, Chicago, Illinois, Feb. 2, 1960.

The invitation to address your conference was undoubtedly occasioned by my membership on the Commission on Medical Care Plans of the American Medical Association, and particularly by my chairmanship of that Commission's Committee on Miscellaneous and Unclassified Plans. As you may be aware, our Committee was assigned the task of studying some two hundred and forty-five miscellaneous medical care plans, many of which were of the closed panel type. This group, which consists of those plans other than Blue Shield, other medical society approved plans and private insurance, presented the most complex and controversial area in the health plan field. You also will recall that the report of the Commission was presented to AMA's House of Delegates at Minneapolis in December 1958. At its subsequent meeting in Atlantic City in June 1959, the House received the Report. All of its recommendations, with very few minor exceptions or alterations, were adopted.

Because of the controversial nature of the subject on which I have been asked to speak, perhaps it would be advisable to say a few brief words about my background. It has been my privilege to serve the South Dakota State Medical Association as president and, subsequently, as its delegate to the AMA

House of Delegates from 1946 to 1954. In 1953, I served as president of the North Central Medical Conference which, for approximately 25 years, has brought together annually physicians of six states to consider medical and socio-economic problems. During the past decade I have served on several committees of the American Medical Association, four of which have been related to medical care plans. The first of these was the Committee on Relations with Lay-Sponsored Voluntary Health Plans, from 1950 to 1958; during several years of which time I served as chairman. Subsequently I was, and still am, a member of the Committee on Prepayment and Insurance Plans and a consultant to the Committee on Medical Care for Industrial Workers. I should mention also that I am currently a director of South Dakota Medical Services, the Blue Shield Plan of my State.

My remarks should also be prefaced by telling you that I am engaged in surgical practice in a partnership group with six associates who are in other specialties, and we own and operate a moderately complete clinical facility. My associates and I have no affiliation with closed panel practice, and all of our income is received on a fee-for-service basis.

At this point, it might be worth while to relate some personal thoughts regarding my experiences on the Commission on Medical Care Plans. At the very start our Committee found through preliminary studies that it was to have under its consideration almost 250 plans involving more than 5,000,000 people as beneficiaries. The plans were scattered widely throughout the country, were greatly varied as to type of medical service they supplied, and contained many diverse characteristics. Many of these closed panel plans had been accepted by the medical profession for several decades and their affiliated physicians were highly regarded by, and held high offices in, state and national medical organizations. Many other similar plans were regarded by the profession with fear, disfavor and, in some cases, opposition. In a few cases, their affiliated physicians found it difficult to gain admission to medical societies. In our studies we found ourselves abruptly face to face with the problems concerning free choice of physicians and third party relationships. Obviously it was impossible to avoid direct consideration of these subjects. In recording our findings, conclusions and recommendations, we therefore realized that some of this material would be unpalatable to many in our profession.

From these experiences I learned a number of things and some of them will be mentioned now. It is apparent to me that my original thinking and convictions regarding some closed panel plans were prejudiced and inaccurate because they were based on lack of information and much misinformation, particularly regarding the mechanisms. My belief in the principle of **unalterable** free choice of physician also changed. It appears to me that free choice of physician is not a fundamental and unalterable principle if it is to be used as a slogan for defense of the status quo, or if it is regarded as a method to gain access to a market. It becomes a sound principle only when accompanied by reasonable assurance by the medical profession of the provision of good medical care at a reasonable cost to the public.

Today as in the past, many types of mechanisms are being utilized to assist in the rendition and financing of medical care. Among these are government, private insurance, Blue Shield, medical society sponsored plans, health and welfare funds, and closed panel plans of various types and sponsorships. Certainly in the future, all of these will continue to exist and undergo evolutionary change, and other types may be added. The relationship of the medical profession with all of these mechanisms must be based on good communication, understanding of one another's problems and interests, and statesmanlike bilateral consideration of these elements.

I have been asked to discuss the organization and operation of closed panel programs. Only the high points can be considered because, as you realize, there are many varieties of these programs with differing characteristics, and this could be a very prolonged discussion. Among the types of closed panel programs, I will briefly describe examples of the following: union health centers, railroad and industry plans, group practice prepayment plans, and consumer-sponsored or related plans. I will also briefly touch upon other developments which have a bearing on the topic. If my presentation of these is too sketchy, I will be pleased to answer

any questions or elaborate to the extent that time will permit during the discussion period.

The union health center, which I will use as an example, has 155,000 members who are employed in a large number of small manufacturing plants. The program was begun in 1913 and financed by member contributions. In 1946 collective bargaining introduced employer contributions which now finance the program almost in its entirety. In 1957 its total budget was one and three quarter million dollars, of which almost a third was spent for physicians services. Although begun as a tuberculosis control service, it is presently providing complete diagnostic and ambulatory care and has an indemnity insurance program for hospital and surgical care, as well as for eye glasses.

Employers contribute from 3½ to 5% of yearly gross payroll to the health and welfare fund, part of which money supports the health center, and other health and welfare activities. Drugs are provided through the center's pharmacy on a cost basis.

The center employs 150 physicians of whom 10 are full-time, 40 nurses, 30 technicians and other ancillary personnel.

An annual salary compensates 15 full-time physicians and 15 part-time physicians who work more than 20 hours a week. The remaining general practitioners and specialists work from 6 to 21 hours weekly and average 9 hours per week. The hourly salary is from $5.50 to $10.00 per hour with the largest number receiving $6.50 per hour.

Medical services are available to members, dependents' spouses and children up to age 18. The center's x-ray diagnostic services are available to patients who are under care of private physicians. The center provides health appraisal examinations and health counselling.

The railroad plan, which I will describe, has approximately 62,000 members who are eligible for its services. These people are employed by the railroad and 17 of its subsidiaries. The program was begun in 1869 to provide employees with complete hospital, medical and surgical care. The hospital department has a modern 450 bed general hospital in San Francisco, a 100 bed hospital in Tucson, Arizona for tuberculous patients, and 18 emergency hospitals dispersed over its entire system.

The program is financed by employee dues, contributions from the company and payments for on-the-job injury cases. Operating employees dues in 1958 were $7.80 per month. The company pays $6.80 per month for its non-operating employees. Additional contributions come from the company and from payments for the treatment of on-the-job injuries.

In 1958 revenues were approximately six million dollars and compensation to physicians was slightly more than one million dollars.

There are approximately 800 physicians and 500 nurses, as well as other ancillary personnel, serving the program. All physicians are on a retainer or fee-for-service basis.

The employee is offered complete diagnostic and therapeutic care in the home, physicians' offices, out-patient clinics and in hospitals. There are, in addition, division physicians and surgeons dispersed throughout the area served by the railroad.

One industry sponsored program, which I will describe, has approximately 23,000 employees as members and was begun in 1902. The original objective of the program was to provide medical care for all employees. The present program provides comprehensive medical care. Laboratory services are provided and drugs are furnished through its own five pharmacies.

Employees may receive unlimited hospital care in any one of 36 hospitals, arrangements for admission to which may be made either by the employee's private physician or a physician on the program staff. The plan provides free ambulance service, as well as an unlimited supply of blood, blood plasma and its derivitives. Employees may also obtain convalescent care in private convalescent homes in the area.

Employees may request the services of any one of 50 local physicians by contacting their supervisor or the plan. They may select any physician, dentist or hospital from those listed by the plan. Specialists in various fields are available for consultation and treatment. Such care may be secured through any one of three medical bureaus in New York City. Comprehensive dental service is also provided.

The program is financed by a contribution

of 1% of the annual pay of employees which management then matches. These monies support the medical care program as well as sickness benefits. Any deficits incurred in operating the medical program are met by the company. The operating cost of the program is 2.4 million dollars, of which 40% is paid by employees and 60% by management.

A total of 132 physicians serve the program. These include 33 medical bureau physicians, 49 district physicians and 45 consultant specialists. A few of the physicians are paid on a fee-for-service basis. Consultants and district physicians are paid on a fee-for-service basis. District dentists work in their own offices and are paid on chair per half hour basis. Hourly rates for specialists are $7.65 to $8.88 per hour with non-specialists receiving $1 to $2 less.

Another type of industry sponsored plan was begun in 1916. There are approximately 50,000 members of this comprehensive medical program, of which 21,000 are employees of the company.

The program is financed entirely by the company. In 1957 the medical program cost approximately $150.00 per employee, and $67.00 per person eligible for coverage.

Unlimited home, clinic, hospital, medical and surgical care is provided through 7 full-time physicians on salary and 38 part-time specialists on a contract basis. Dental and podiatry care are also covered.

All types of x-ray and laboratory services are provided. Drugs are provided without charge.

Practically all members are referred to one 500-bed community hospital.

There are no restrictions as to kind of disease or type of service. Tuberculosis, venereal disease, mental illness, and drug addicts are all covered. There is no time limit on the period of hospitalization.

One consumer sponsored plan provides rather complete medical and surgical services to over one-half million subscribers, including dependents, through 32 groups of physicians who operate as private practice partnerships. The groups receive from the plan $31.80 per person per year enrolled, in return for which comprehensive medical and surgical care is provided. All subscribers are required to purchase their own hospitalization through Blue Cross.

The plan also provides special services, visiting nurses, and highly technical surgical procedures under a special services fund if such procedures are outside the range of experiences of the physicians in the groups.

The quality of medical care is supervised by a medical control board which has established various standards of performance for the medical groups.

Most of the physicians in the groups provide part-time service in the clinic facilities which they own. Additional charges may be made for certain services.

Another consumer-type of health plan which operates through a number of groups of physicians has about 600,000 members. It provides rather comprehensive services through several hospitals and a number of out-patient clinics. Different types of plans are available to prospective subscribers. As in the previous example cited, the per capita method of payment to physicians is used. Over 500 physicians, most of them on a full-time basis, provide medical care to plan members.

An example of another type is a private practice group which offers a prepayment plan to the public and it serves over 100,000 people. Its large clinic and twelve branch offices employ over 100 full-time physicians. Rather comprehensive services are provided at monthly fees which run from $4 to $6 per person, depending upon type of plan. Additional charges are made for certain services.

It has been suggested that some comments be made with regard to the closed panel approach to health care and the approach utilized by voluntary prepayment and insurance programs. Many of you may have heard and read previously various assertions which I will summarize on this controversial subject. Even though repetitious, these elements still provide much food for thought.

1. Many closed panel plans provide the individual with a nearly total predictable cost for his medical care and an opportunity to pay for it on some budgeting basis. Other plans pay only a part of the cost; consequently the total cost to an individual in the latter instances is unpredictable and unbudgetable. This is particularly true if the insuring mechanism exhibits no concern as to the total amount the insured is required to pay for the services required by him.

2. Many closed panel plans concern themselves with regard to the quality of medical care rendered. This is above and beyond the efforts of the organized medical profession, which occur largely because of hospital staff studies and controls. Other mechanisms have exhibited little overt concern regarding quality and have relied primarily on efforts voluntarily assumed by the medical profession.

3. Closed panel plans encourage ambulatory and out-patient care, thus reducing total health care costs by tending to minimize hospital stays. Other insuring mechanisms, for one reason or another, may encourage hospital admission for diagnosis and other types of care.

4. Many closed panel plans encourage early diagnosis and treatment by covering their costs to a rather complete extent, and thus removing financial barriers to such care. In other insuring mechanisms, diagnostic consultations and other out-patient expenses often represent extra charges to the subscriber or insured.

5. Some closed panel plans have developed educational programs on health matters for their beneficiaries. Some of these plans direct educational efforts toward the participating physicians with regard to the features of the plan itself as well as the relationships of these physicians to the plan. Other insuring mechanisms seem to do much less in these areas.

You will observe that I have confined my remarks to those elements which relate to quality, quantity and cost of medical care. I have not mentioned the apparent willingness of many physicians to participate in these programs, and their reasons for so doing.

Comment has also been requested from me with regard to the future potential effects of closed panel plans on Blue Shield and other voluntary insuring mechanisms. By way of answering this — or perhaps, more accurately, by assisting you to provide an answer to it — permit me to ask a few questions:

1. Referring to the potential effects of closed panel plans on Blue Shield, should we not consider instead the impact of pressures from unions and other groups for more comprehensive coverage at the lowest possible cost, or, at a cost which is predictable and which can be negotiated for to represent substantially full payment for the widest possible range of services for certain income groups?

To many in the labor field and to some in management, the closed panel represents an organizational form of medical practice through which the two objectives of **comprehensiveness** and **cost** can be met. A third objective, which physicians who participate in closed panels set forth as an additional argument, is the assurance of the provision for quality of medical care, which is the third side of the medical care triangle.

2. Can we not anticipate, therefore, that if Blue Shield plans do not meet the real or presumed needs of segments of the population from which these pressures arise, these groups will demand other forms of medical practice which offer the promise of fulfilling these wants? The community type of program as advaced by HIP, Permanente, CHA and GHA, represent some examples. The UMWA program is illustrative of a different approach, and the development of union health centers, is another. The fact that there are approximately 100 railroads participating in or operating closed panel plans at present, should attach some significance to a form of medical practice which, although it had its origins in the mid 1800's, still exists today. Realizing that these closed panel plans started 100 years ago when medical personnel and facilities were not readily available, is it not interesting to note that they still are in operation when personnel and facilities are abundant? Is it not also significant that more than 50 union health centers are in existence to provide diagnostic and ambulatory services which they claim they cannot purchase through other prepayment mechanisms?

3. And another question: Is is not true that a very substantial percentage of Blue Shield subscribers are union workers in many large industries? What would be the impact if the steel workers or the automobile workers or other similar groups entered into a total program of closed panel practice or a United Mine Workers type of program?

4. Since there is a progressively increasing tendency for physicians to practice medicine in groups, what would be the impact if closed panel practice should markedly increase in the future by reason of sponsorship of prepayment plans by physicians in private group

practice or affiliation of private practice groups with consumer-sponsored or community-sponsored health plans?

5. What will be the influence of increasing management-sponsored and financed health care? The recent settlement of the steel strike may be regarded as notice to the medical profession that management in the near future may raise the same questions and issues that unions have raised in the past, now that management is paying the full cost of medical care. Obviously the impact of closed panel plans has already been felt, for there is increasing evidence of reappraisal of current plans as to their costs and quality controls.

6. Will another development of increasing importance have an effect? This relates to the action of certain health and welfare funds in arranging with unorganized groups of individual physicians to render care for their beneficiaries at a fixed, mutually agreed upon fee schedule and on virtually a closed panel basis.

7. Very soon the United States Government will embark on an employee-employer financed medical care plan and it will be one of greater magnitude than any other. Can we not expect that the federal government may be a more concerned and paternalistic employer and may subject its various types of medical care programs to critical analyses and comparisons? What might be the impact if it were shown by comparative studies that Blue Shield had done its full duty under the contract, but that a much larger percentage of the total cost of medical care to its employees had been covered in some other types of mechanisms?

The answers to these and other questions will determine the future impact of closed panel plans on Blue Shield and other insurance mechanisms.

And now, what are some of the considerations in dealing with this problem? Industry usually attempts to provide the consumer what he wants and will pay for. It is conceded that ultimately he will usually get it anyway, even if it isn't considered by others to be good for him. Liquor has its attributes but it does much harm to many people. After many years of prohibition, this legislation was repealed because people wanted liquor. Cigarette sales are higher than ever before despite the many publications implicating cigarettes as a suspected cause of cancer. In the field of medical care, it is my feeling that a large segment of the people want:

1. Broader or more comprehensive medical care coverage and they are willing to pay for it.

2. A reasonable prediction of the total cost of medical care and an opportunity to budget for at least a substantial percentage of this amount. One cannot discuss the Blue Shield situation without also considering rising hospital costs. Even if medical and surgical costs were stabilized in the future, physicians must also become concerned with rising hospital costs due in part to increasing hospital utilization as prepayment grows, for closed panel proponents claim much lower admission rates and significantly reduced lengths of stay.

3. Good quality medical care at a cost that can be afforded. It would be advantageous if, through a good cooperative relationship, the Blue Shield Plan and its sponsoring medical society could become jointly more concerned with the quality and the total cost of medical care received by plan beneficiaries. The individual is entitled to expect more from a plan which is called "The Doctor's Plan." Conseqently, it appears to be poor propaganda to indicate that Blue Shield merely trades dollars because, then, Blue Shield implies more concern for the physician in collecting his bills than for the quality or total cost of medical care which the subscriber is receiving for his premium dollar.

4. Coverage for the aged.

5. Some type of coverage for the more serious or complicated surgical or medical case.

6. Good medical care for the indigent. While this latter should be a tax-supported responsibility of some echelon of government, it is a field in which fruitful results might come from cooperative efforts of government at all levels, the medical profession and Blue Shield insurance mechanisms.

"Facing the Facts" provides an excellent theme for your meeting. It would be trite to say that we are living in a challenging world of change and progress. This being true, we must view changes in the methods of rendering and financing medical care as proper considerations. In past years Blue Shield en-

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THE 79th ANNUAL MEETING PROGRAM OF THE S.D.S.M.A.

Film — "The Early Detection and Medical Management of Ulcerative Colitis" — Courtesy of Pharmacia Laboratories

"The Role of the Family Doctor in Modern Vascular Surgery"
Claude Hitchcock, M.D., Minneapolis

"The Internist Looks at the Problem of Esophagogastric Varices"
William T. Gibb, M.D., Washington, D. C.

"Respiratory Emergencies in the Newborn and Early Childhood"
Kenneth C. Johnston, M.D., Chicago

"Inhalation Therapy in Respiratory Disease"
Albert A. Andrews, Jr., M.D., Chicago

Panel Discussions — —"Respiratory Disease"
Paul G. Bunker, M.D., Aberdeen, Chairman
Kenneth C. Johnston, M.D.
Albert A. Andrews, Jr., M.D.
Robert Nelson, M.D.

Cocktails — Aberdeen Country Club

Banquet and Dinner Dance. Entertainment by Audrey Artz Combo.

Council Meeting immediately after Banquet.

Film—"Current Trends in the Clinical Management of Diabetes"
Courtesy of the Upjohn Company

"Voluntary Health Insurance — A Report to the Practicing Physician"
Kenneth Barrows, Des Moines, Courtesy of the Health Insurance Council

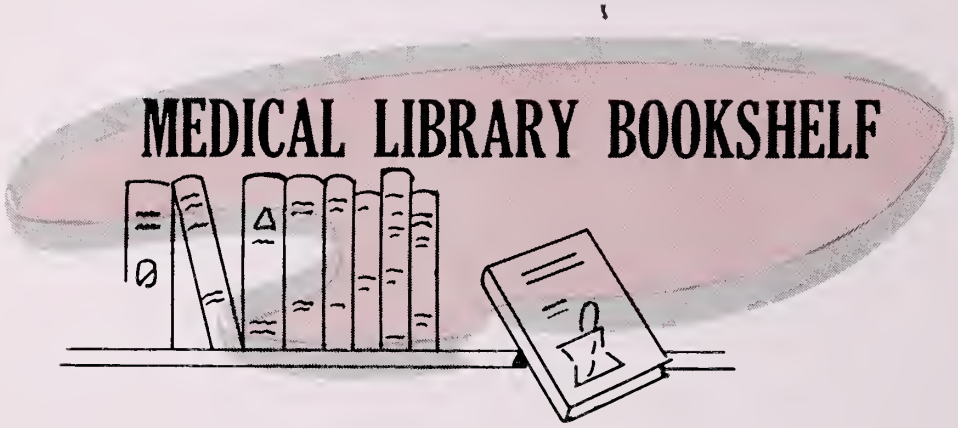
"Anatomical Approach to the Problem of Stress Incontinence"
Kermit Krantz, M.D., University of Kansas Medical Center

"The Diagnosis of Anorexia Nervosa"
John Berkman, M.D., Mayo Clinic, Rochester, Minnesota

"Cinefluorography — Motion Picture Fluoroscopy"
Joseph Jorgens, M.D., V.A. Hospital, Minneapolis

"Depression: Its Recognition and Treatment By the General Practitioner" — H. Angus Bowes, M.D., and James E. Gilbert, M.D., Aberdeen

The Preceptor Program of the University of South Dakota School of Medicine (All physicians whether preceptors or not are invited to attend this session).



NEW INDEX MEDICUS

Previous to 1897, John Shaw Billings, together with Robert Fletcher, published a private, monthly index to medical literature call the **Index Medicus.** This indexed the contents of the journals, books and pamphlets received by the Army Medical Library. From 1879 to 1898, Fletcher edited this alone, and from then until 1927, there were numerous editors, all of whom encountered increasing financial difficulties. The third series started in 1921 on a quarterly basis continuing until 1927 when it merged with the **Quarterly Comulative Index** published by the American Medical Association forming the **Quarterly Cumulative Index Medicus.** The A.M.A. continued this publication through volume 60, July-December, 1956 which will be the last volume published. Since 1941, the National Library of Medicine (formerly the Armed Forces Medical Library) has also published an index, entitled the **Current List of Medical Literature.** This ceased with the December, 1959 issue. Beginning with January, 1960 the National Library of Medicine started a new series of the **Index Medicus,** which is now the only national index in the medical field. This new **Index Medicus** will be published monthly, with an arrangement of references in separate subject and author sections in each number. It is estimated that 120,000 articles will be covered. According to the **National Library of Medicine News** for August, 1959, "after completing the issue for December, 1960, the National Library of Medicine will rearrange and realphabet, by machine, the twelve monthly issues of the **Index Medicus** for 1960. The rearranged material will then be photographed by a high-speed step camera; the film copy will be transferred to the American Medical Association for direct utilization in the preparation of the printing plates. The American Medical Association will then see the **Cumulated Index Medicus** through the press, and will effect its distribution." The subscription price of the **Cumulated Index Medicus** hasn't as yet been announced. The **Index Medicus** is for sale by the Superintendent of Documents, United States Government Printing Office for $20.00 per year.

NEW NATIONAL LIBRARY OF MEDICINE

In 1961 the National Library of Medicine will move from the antiquated, crowded, unattractive building in downtown Washington to a new $7,300,000 structure now being built on the campus of the National Institute of Health in Bethesda, Maryland. The Library's great historical collection which has been, because of lack of space in the present building, stored in Cleveland, will be housed with the rest of the library collection at Bethesda.

The 125th anniversary of the founding of the National Library of Medicine occurs in 1961, so they hope to be located in their new building by that time.

ABRAHAM FLEXNER, DECEASED

This famed educator died in September of 1959 at the age of ninety-three, at his Falls Church, Virginia home. Although not a medical doctor he played a lead role in a revolution which stirred medical education throughout the United States and Canada. His widely publicized study of medical education conducted under the auspices of the Carnegie Foundation for the Advancement of Teaching had an explosive effect. Mr. Flexner found that most of the Medical Schools in the United States and Canada were sorely lacking in facilities, that instruction was often poor, and that rebuilding was needed from the ground up, both in buildings and teaching philosophy. Most of the schools of the period were "practitioners' schools," or institutions operated independently of universities by a doctor or group of doctors in private practice.

The State University of Iowa's College of Medicine was one midwest institution that was criticized severly. The University Hospital was too small, and the amount of experience available in certain areas for students was "very limited." Mr. Flexner on invitation came to Iowa City and advised on how to proceed with plans for rebuilding and reorganizing. The state legislature appropriated more funds, additional space was made available and steps taken to build up a full-time faculty. Later while a member of the Education Board of the Rockefeller Foundation, Mr. Flexner was influential in securing a gift of $2,250,000 from the Rockefeller group to be matched by state funds for the construction of the University General Hospital and its Medical Laboratories Building.

According to **Who's Who in America** Abraham Flexner was born in Louisville, Kentucky, on November 13, 1966; received his A.B. at Johns Hopkins; his A.M. from Harvard and D.Sc. from the University of Louisville in 1956. In addition to many honors he was the recipient of the Frank H. Lahey Memorial award in 1956.

His book **Medical Education: A Comparative Study,** MacMillan, 1925 is a comparison

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MEDICAL ECONOMICS—

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tered uncharted areas with resultant and outstanding success. That same experimental and adventuresome attitude must be brought to bear on the new and different problems that face us now and that will develop in the future. Blue Shield cannot afford to become complacent toward change or progress, for such was the attitude toward medical care insurance two decades ago before Blue Shield was originated. There is no time to staidly review increasing enrollments, financial stability and past successes.

Blue Shield and the physicians directing it are an important specialized segment of the medical profession. You who are present at this conference, as well as many others, have been cognizant of these serious socio-economic problems as they affect medicine, and have been willing to devote time, effort, study and leadership in their solution. The use of cooperative medical statesmanship by you who represent Blue Shield and by the leadership of sponsoring medical societies will result in "facing the facts" and meeting the challenge of the progressively changing and increasing medical care needs of the community. Grantland Rice, the noted sports writer, once said, "The most important stroke in golf is — **the next stroke.**" It seems to me that the next stroke for Blue Shield is to tackle these increasing community demands with thought, experimentation and acceptance of calculated risk in developing and extending its program of activity and coverage.

In concluding, I beg the indulgence of those present who are not fully aware of some of the developments I have been discussing. You may feel that I have exaggerated the potential impact of closed panel plans or the pressures which have slowly been building up over the years. I can only urge you to become better acquainted with some of the facts and problems which have been presented and to ask any questions which will provide you with a greater insight into these issues.

PRESIDENT'S PAGE



Fifty years ago the Auxiliary of the State Medical Association was founded.

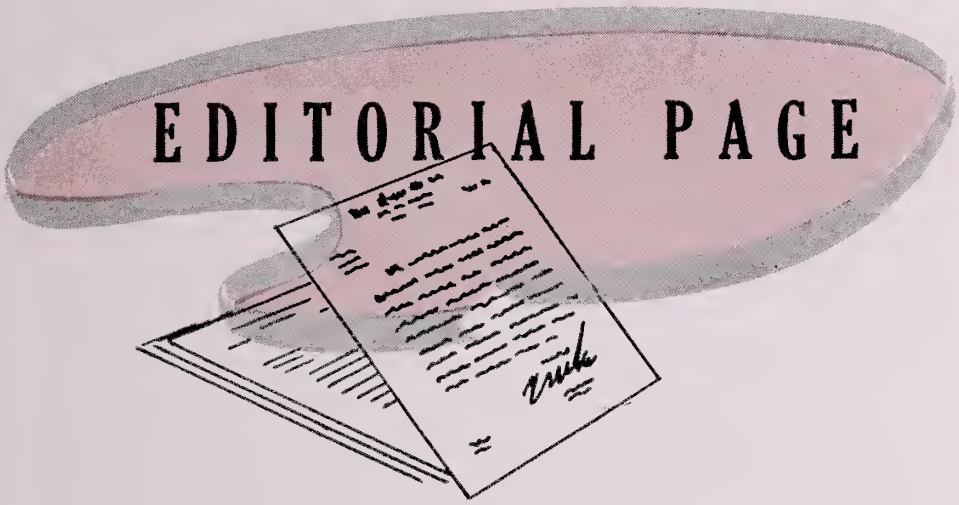
I do not know the significance of the fact that the State Medical Association was 29 years old when the Auxiliary was founded.

Was it that fifty years ago physicians were usually at least 29 years old before they were usually able to afford a wife or was it because, with the advent of the automobile, the husband needed the wife along to help drive the car?

Whatever the reason, we are certainly glad to have our wives with us and to help them observe their anniversary.

Our wives have become such a necessary part of our professional lives in helping share with us many of the worries and responsibilities that we must face.

R. A. Buchanan, M.D.
President



INSPECTION AND ACCREDITATION OF BLOOD BANKS

A voluntary inspection and accreditation program for Blood Banks sponsored by the American Association of Blood Banks is now underway in South Dakota.

The sole purpose of the program is to raise the standards of practice for Blood Transfusion Services. The major benefits from the voluntary program will go to the patients receiving blood, because of improvements that will occur in Blood Transfusion Services throughout the state and nation. Ancillary benefits will be an easier exchange of blood between intrastate Blood Banks, assistance in medicolegal problems and a reward by certification of those Blood Banks which are found to be worthy of this recognition.

The inspection and accreditation program in South Dakota will be carried out by inspectors, who are medical directors of Blood Banks in the state, and are members of the American Association of Blood Banks. Inspections will be offered at no cost to institutional member banks of the AABB and certification will be for a 3 year period. Blood Banks which are not members of the AABB will be charged a fee equal to the Annual dues for an institutional member of comparable size, plus out-of-pocket expenses of the inspector. Certification for non-member banks will be for one year.

The penalties for non-adherence to the standards and lack of proper safeguards are severe blood transfusion reactions which may be fatal, and in other cases sensitization or recipients to blood antigens which may result in hemolytic disease of the newborn.

Every blood bank in South Dakota is urged to participate in this voluntary program, which will offer an opportunity to improve their Blood Transfusion Services.

As physicians we should watch the inspections and accerditation program with great interest and lend all the support and encouragement that we can. Each of us must realize that Blood Banking is an area of medical practice which has made great progress in recent years and we must insure that our communities are receiving blood from a source which follows the minimum standards proposed by the Scientific Committee of the Joint Blood Council and the Standards Committee of the American Association of Blood Banks.

WAG

NEWSPAPER SUPPORT

Frequently an editorial will come to our attention that we think worthy of reproduction. The following, a keenly analytical and outspoken effort, is reprinted from the Highmore (S. D.) Herald. It shows support for medicines battle on HR 4700.

FOR VOTES-AT-ANY-COST

Anyone who is wondering what this country is coming to had better keep his eye on the Forand Bill — a strictly election-year-type bill, designed to impress the over 10 million voters who are 65 or more this year and the millions more approaching that age — and reminiscent of Britain's disastrous cradle-to-the-grave experiment in paternalism.

Rhode Island's Rep. Aime J. Forand, who is second-ranking Democrat on the House Ways and Means Committee, would boost Social Security taxes some more to provide oldsters with 60 days of hospitalization a year, plus hospital surgical expense plus nursing home care up to 60 days more for patients sent to such institutions by hospitals.

Nor is the Forand Bill any idle threat. The Committee has already held hearings on it and will consider it in executive session at an early date. While Chairman Wilbur D. Mills winces at the thought of increasing tax rates, no less than 10 to 25 members of the Committee are on record as publicly favoring a scheme of this sort — and only 13 votes are needed for Committee approval. Author Forand, himself, insists that his mail shows that people want it and are willing to pay for it. Just possibly, those who take pen in hand will not have too long to wait (and pay) if the measure is passed.

It might also be mentioned that the AFL-CIO is pushing hard for a "health-insurance" law this year. This, no doubt, on the theory that another fringe benefit on which the employer pays half — without the need of union demands or threats or collective bargaining — is a good deal.

What the provisions of the Forand Bill would cost the taxpayers is beyond all prediction. It would not only run into hundreds of millions, perhaps billions, but would swamp our medical and health facilities with elderly "rest-cure" patients at the expense of the seriously ill — for whom there would be no adequate facilities, even for those who had been paying out their own money for years in anticipation of such needs.

In saddling the very first Federal health plan on the nation, the Forand Bill could logically be expected to open the bureaucratic floodgates to a tidal wave of legislation Federalizing all health services — hospitals, clinics, medical research and medical practice — perhaps our pharmaceutical industry and even the corner drug store.

Thus, we'd better decide now whether we want to scrap a system that has given this country the world's highest level of health, that has consistently lengthened our life-span and given each new generation a better physique and better protection against a steady diminishing list of health hazards.

W J M

MEDICAL LIBRARY BOOKSHELF—

(Continued from Page 193)

of medical education of certain European countries and America against the background afforded by the general educational and social systems of the respective countries.

The A.M.A. formally acknowledged its gratitude to Abraham Flexner at the 56th Annual Congress on Medical Education and Licensure. A.M.A. president Dr. Louis Orr read a resolution adopted by the A.M.A.'s Board of Trustees recording the organization's debt to a man whose investigation and report published fifty years ago "threw the spot light of public opinion on the grave deficiencies in the majority of schools." Dr. Orr presented a bound copy of the memorial resolution to Dr. John W. Flexner of Nashville, Tennessee, grandnephew of the late Abraham Flexner.

Mrs. Esther Howard
Medical Librarian

THE MONTH IN WASHINGTON

President Eisenhower's Conference on Occupational Safety urged stronger x-ray legislation by the states with an aim of protecting consumers and workers against too much radiation.

The three day Conference also said there is need "for effective educational programs to reduce both consumer and occupational exposures to x-rays used for diagnosis and therapy, x-ray installations in industry for products control and related purposes and various x-ray devices, such as shoe-fitting fluoroscopes."

The Conference also recommended intensive efforts to develop better ways of determining safe exposure levels of radiation.

COMMITTEE ON REVISION OF CONSTITUTION AND BYLAWS RECOMMENDATIONS ON PROPOSED REVISIONS

(Ed. Note: Prior to the 1959 Annual Meeting of the South Dakota State Medical Association a Committee on Revision of Constitution and Bylaws was appointed to work over the Constitution and Bylaws. A complete revision has been set up by the Committee and is published in the official publication as provided in the present constitution. Find acceptance or rejection will be voted at the annual meeting May 14-15 in Aberdeen.)

ARTICLES OF INCORPORATION OF THE SOUTH DAKOTA STATE MEDICAL ASSOCIATION

Be it resolved: that the Articles of Incorporation of this corporation be and the same hereby are amended in their entirety to read as follows:

ARTICLE I

The name of this corporation shall be the South Dakota State Medical Association.

ARTICLE II
Objects and Purposes

The objects and purposes of this corporation shall be to advance the medical and collateral sciences and to assist in acquiring a knowledge of the same; to work for the benefit of community health and welfare; to bring together the physicians of this state into one organization and unite with similar organizations to form the American Medical Association; to elevate the standards of medical education; to assist in establishing high standards of medical care in all public programs and to advise persons or agencies in the administration of such programs; and to lease, hold, purchase, buy or sell such property, real, personal, or mixed, as may be necessary or reasonably incidental to the conduct of its business, its purposes and objects; and to acquire such property or any part of it by gift, devise, or purchase.

ARTICLE III
Principal Business

The business of said corporation may be carried on in all counties of the State, but its principal office shall be in the City of Sioux Falls, County of Minnehaha, State of South Dakota.

ARTICLE IV
Existence

The existence of the Corporation shall be perpetual unless dissolved by law.

ARTICLE V
Stock

This corporation shall have no capital stock.

ARTICLE VI
Non-Profit Nature

The corporation does not and shall not afford pecuniary gain, incidentally or otherwise, to its members or to any component county or district medical society and shall not be operated for the purpose of making any profit. No part of the earnings of the corporation shall enure to the benefit of any member or any component county or district medical society. All income of the corporation shall be used for the fulfillment of the purposes for which it was formed, including operating expenses of the corporation.

ARTICLE VII
Officers

The Officers of this association shall consist of a president, president-elect, vice-president, secretary who shall also be treasurer, speaker of the House of Delegates, and the councilors.

The mode of election and terms of office of the officers shall be fixed by the Bylaws of this Corporation.

ARTICLE VIII
Governing Body

A: The Association shall create a legislative and business body to be known as the House of Delegates in such a manner as may be now or later provided in the Bylaws. It shall exercise the delegated powers of the members of the Association as a whole, and of the component societies as units. It shall hold annual sessions, shall elect officers of the association except as may be provided in the Bylaws, and shall transact all general business of the corporation not otherwise specifically provided for in the Bylaws.

B: The Council shall be the Board of Trustees of this Association and shall carry out the mandates and policies of the Association as determined by the House of Delegates.

ARTICLE IX
Cumulative and Proxy Voting

Cumulative voting and voting by proxy shall not be permitted.

ARTICLE X
Seal

This association shall have a common seal as set by the House of Delegates which shall have the power to change or modify the seal as consistent with South Dakota law.

ARTICLE XI
Amendments

These Articles of Incorporation may be amended by the House of Delegates after proposed amendments have been read at an Annual Meeting and laid over until the next Annual Meeting and have been published twice in the official publication of the Corporation. Vote to amend shall consist of a simple majority of the members of the House of Delegates present and voting.

BYLAWS OF THE THE SOUTH DAKOTA STATE MEDICAL ASSOCIATION

ARTICLE I
Name

The name of this corporation shall be the South Dakota State Medical Association.

ARTICLE II
Objects and Purposes

The objects and purposes of this corporation shall be to advance the medical and collateral sciences and to assist in acquiring a knowledge of the same; to work for the benefit of community health and welfare; to bring together the physicians of this State into one organization and unite with similar organizations to form the American Medical Association; to elevate the standards of medical education; to assist in establishing high standards of medical care in all public programs and to advise persons or agencies in the administration of such programs; and to lease, hold, purchase, buy or sell such property, real, personal, or mixed, as may be necessary or reasonably incidental to the conduct of its business, its purposes and objects; and to acquire such property or any part of it by gift, devise, or purchase.

ARTICLE III
Membership

Section 1. Requirements: This Association shall consist of a Section 2. Categories (a) active members, (b) life members, and (c) associate members, all of whom shall be doctors of medicine licensed in the State of South Dakota or permitted to practice herein under the provisions of the Medical Practice Act.

a: ACTIVE MEMBERS of this Association are all lawfully registered physicians residing or practicing in the State of South Dakota of good moral character and professional standing who do not support or practice or claim to practice any exclusive system of healing, and who are active members in good standing in the component societies from whom, or on whose behalf, the required annual dues or special assessments have been paid to this association in accordance with the applicable provisions of Article IX Sec. 1.

b: LIFE MEMBERS are those who meet all of the following requirements:

(1) have been members for a continuous term of ten years;

(2) are not engaged in the active practice of medicine;

(3) have been made an honorary or life member of their component society;

(4) have been elected a Life Member of this Association by a majority vote of its House of Delegates or of the Council between Annual Meetings;

and, one of the following requirements:

(1) are over age 65;

(2) are incapacitated for work because of illness or infirmity.

Life members may participate in the scientific assembly and receive the Journal of the Association, but shall not be required to pay membership dues, and each life or honorary member shall continue his relationship with his component society.

c: ASSOCIATE MEMBERS are those serving on active commissioned duty in the armed forces of the United States or in an approved intern or residency program in South Dakota. They shall not be required to pay membership dues and shall receive the Journal of the Association. They shall not have a vote nor will their memberships be counted in appointment of delegates from their component societies.

ARTICLE IV
Component Societies

Section 1. Definition

The component societies of this Association consist of those medical societies representative of the medical profession of in county, or a group of counties, now in affiliation to form this State Association or those that may hereafter be organized in this state, which have adopted principles of organization not in conflict with these Bylaws, and which have upon application to the Council received charters from this Association granted only after their constitution and/or bylaws have been submitted to the Council and have received its approval. Charters issued by this Association are in full force and effect until revoked, but the Association shall have the right, without revoking a charter, to suspend some or all of the rights and privileges of a component society for the causes and in the manner provided in these Bylaws.

Section 2. Limitations

Component societies are subject to the following limitations:

a: Bylaws of State Association — The Bylaws of this Association, and the amendments thereto that may be adopted in the future, are the supreme law of the component societies. Insofar as the constitution or bylaws of the component society are contrary to, or inconsistent with, the bylaws of this Association, the constitution or bylaws of the component society are void and of no effect.

b: Council Approval of Component Society Constitution — The constitution or bylaws, or any amendment thereto, of the component society shall not become effective until approved by the Council of this Association. If a proposed constitution or bylaw, or an amendment thereto, is disapproved by the Council, the affected society may appeal to the House of Delegates at its next regular meeting and the Council must act on the matter according to the instructions of the House.

c: One Society in County — Not more than one component medical society shall be chartered in one county.

d: Component Society Membership and Discipline — Each component society shall judge the qualifications of its members, subject to review and final decision by the Council of this Association. A member of a component society whose license has been revoked shall be dropped from membership automatically as of the date of revocation. The Council of this Association shall have authority to expel a member should a component society fail to do so after being so requested by the said Council, and a component society may expel, suspend, censure or otherwise discipline a member who fails to abide by the Code of Ethics of the American Medical Association, or for such other cause as is stated in the society's constitution and bylaws, provided a copy of the charges preferred against the member is served to him, he is given at least ten days notice to prepare his defense, and a hearing is held on those charges at which he is afforded a full opportunity to be heard in his own defense, and to present witnesses and other evidence in his behalf. A component society, if its constitution and/or bylaws so provide, may drop from membership any member in arrears with respect to dues for six months or more without giving notice or holding a hearing. A member against whom disciplinary action has been voted by a component society shall have the right of appeal to the Council of this Association and eventually to the Judicial Council of the American Medical Association, under such rules as those two bodies may adopt; the disciplinary action voted by the society, however, shall remain in full force and effect during the pendency of such appeal or appeals.

Section 3. Revocation of Charters

a: Cause for Revocation — The Council may, in its discretion, revoke the charter of or suspend any or all rights and privileges of a component society, which in the opinion of the Council:

1. Fails (willfully or negligently) to pay prior to the ensuing January 1, an assessment, regular or special, levied on it;
2. Fails to investigate any charges preferred against any of its members, which, if true, would be cause for society discipline or fails to conduct in a proper manner disciplinary proceedings where a complaint has been filed in a proper manner and form;
3. Fails to execute a disciplinary sentence imposed on a member as a result of disciplinary proceedings conducted in accordance with the requirements of Article IV, Section 2, d:
4. Willfully refuses or fails to obey or follow policy, rule of conduct, or course of action regularly and validly enunciated by the House of Delegates, or

5. Commits any act which is contrary to or inconsistent with the objects of this Association.

b: Procedure of Revocation — The Council shall have jurisdiction to revoke a charter or to suspend any or all rights of a component society only if:

1. A hearing is held at which the accused society has a full and complete opportunity to be heard in its own defense;
2. At least two weeks prior to the hearing notice is given the affected society as to the time and place of the hearing and as to the alleged derelections of the society which will be the subject of the hearing; and
3. Two-thirds or more of the Council vote to suspend rights or privileges or to revoke the charter of the affected society.

c: Reinstatement — The Council in its discretion may provide conditions under which the affected society will be restored to good standing in this Association and can resume the exercise of all of the rights and privileges of component societies.

d: Appeal — A component society whose rights and privileges of its charter have been suspended or revoked by the Council, shall have the right to appeal to the House of Delegates at its next session, and the decision of the House of Delegates in the matter shall be final. Pending the determination of the House of Delegates, the decision of the Council shall be given full force and effect. In the case of every appeal, both as a board and as individuals, the Councillors shall, preceding all such hearings, make efforts toward conciliation and compromise.

Section 4. Transfer of Members

a: Relocation Within the State — When a member in good standing in a component society moves to the area of another component society in this State, he shall be given a written certificate of these facts by the secretary of his society, without cost, for transmission to the secretary of the society in the district to which he moves. Pending his acceptance or rejection by the society to which he moves, such member shall be considered to be in good standing in the component society from which he was certified and in the State Association to the end of the period, respectively, for which his dues have been paid.

b: Discretionary Selection of Society — A physician may hold his membership in that component society most convenient for him to attend on the permission of the component society in whose jurisdiction he resides.

Section 5. Professional Influence

Each component society shall have general direction of the affairs of the profession in the district, and its influence shall be constantly exerted for bettering the scientific, moral, and material condition of every physician in the district. Systematic effort shall be made by each member, and by the society as a whole, to increase the membership until it includes every eligible physician in the district.

Section 6. Delegates to Annual Meetings

At some meeting in advance of February 1st immediately prior to the annual meeting of this Association, each component society shall elect delegates and an equal number of individual alternates therefor to represent it in the House of Delegates of this Association, in accordance with these Bylaws. The secretary of each component society shall send a list of such delegates and alternates to the Secretary-Treasurer, of this Association, or his designee, at least sixty days before the annual meeting. Representation in the House of Delegates shall be contingent on compliance with the foregoing provisions.

Section 7. Recommendations for councilors

In the years when a councilor is to be elected from a district society, that society shall, in advance of April 1st, select three (3) of its members to recommend for the office of councilor from its district. The list shall be sent to the Secretary-Treasurer of the Association at least thirty (30) days before the Annual Session, and the lists shall be submitted to the Nominating Committee of the House of Delegates upon its appointment.

Section 8. Roster of Members and Programs of Societies

The Secretary of each component society shall keep a roster of its members and, if practicable, a list of all non-affiliated physicians, in which shall be shown full name, address, college and date of graduation, date of license to practice in this State, and such other information as may be required by the Council. He shall send a copy of the program of each meeting of the component society to his district councilor and to the Secretary of the State Association or his designee.

ARTICLE V
Annual Meetings

Section 1. Time and Place

An annual meeting shall be held at such place and time as provided in Article VII, Section 2, paragraph a, and Article VIII, Section 2, paragraph c, and shall be open to all members and invited guests.

Section 2. Papers

All papers read before this Association shall be its property. Each paper, when it has been read, shall be deposited with the Secretary-Treasurer or his designee. Authors of papers read before this Association shall not allow them to be published elsewhere until (1) they have been published in its Journal (2) with or approval of the Secretary-Treasurer or his designee.

ARTICLE VI
Governing Body

Section 1. House of Delegates

All governing powers of the Association, including the power to alter, amend, or repeal these Bylaws, is vested in and resides in the House of Delegates, which alone shall have authority to determine the policies of the Association. It shall elect the officers as outlined in these Bylaws and such delegates to the American Medical Association as the Association may be entitled.

Section 2. Composition

The House of Delegates shall be composed of (1) delegates elected by the component societies, each component society being entitled to elect one delegate for each 25 active and life members in good standing, or fraction thereof, who enjoy all the rights and privileges of memberships, provided each component society shall be entitled to elect at least one delegate, and (2) the officers of the Association enumerated in Article VII of these Bylaws.

Section 3. Presiding Officer

The House of Delegates in its deliberations shall be presided over by the Speaker of the House of Delegates and in his absence by any delegate selected by it as Speaker Pro-tem.

Section 4. Meeting Time

When the House of Delegates meets in regular session, it shall meet on at least two days of the annual meeting. It may also meet at other

times and shall meet in such special session in accordance with the terms of the call. The call to special session may be initiated by the President, Speaker of the House, Council, or upon petition of eleven members of the House.

Section 5. Quorum

Fifteen delegates shall constitute a quorum of the House of Delegates. All meetings of the House of Delegates shall be open to members of the Association.

Section 6. Inability of Delegates to Serve

If a delegate, and his alternate, elected by a component society die, resign, cease to be a member in good standing of the society, become disabled, or for any reason cannot assume the duties of office, or will be absent from the session of the House of Delegates, the president of the component society shall appoint another active member to serve in his stead during the balance of the term or during the disability, or absence, as circumstances indicate. As soon as practicable after the appointment, the President of the component society shall notify the Secretary-Treasurer of this Association or his designee of his action.

Section 7. Reference Committees

The speaker of the House of Delegates shall appoint from among the delegates such reference committees to which reports and resolutions may be referred as may expedite the business of the House. Such reference committees may include committees on credentials, resolutions, annual reports, tellers and judges of election, and such other committees as may be expedient.

Section 8. Special Committees

The House of Delegates may appoint committees composed of any members of the Association for special purposes, or it may provide for such committees and authorize the appointment of members by the President. Such committees shall report to the House of Delegates and members of such committees may participate in discussion and debate relative to their reports, but unless committeemen are delegates they shall not have the right to vote.

Section 9. Districts

The House of Delegates shall divide the state into Councilor Districts, specifying the political subdivisions each district shall include, and, when the best interest of the Association and the profession will be promoted thereby, organize in each a District Medical Society, of which all members of the component societies shall be members.

Section 10. Budget of Expenditures

The House of Delegates shall approve an annual budget of expenditures to be submitted by the Council.

Section 11. Memorials and Resolutions

All memorials and resolutions issued in the name of the Association shall not become effective until approved by the House of Delegates.

Section 12. Referendum

At any session, either annual or special, the House of Delegates may by a two thirds vote order a general referenum to the membership of the Association on any pending question, and a majority vote of the members voting shall determine the question.

ARTICLE VII
Officers

Section 1. Designation and Terms

a: Designation — The officers of this Association shall be the President, President-Elect, Vice-President, Speaker of the House of Delegates, Secretary-Treasurer, one Councilor-at-Large who shall be the immediate Past President, one Councilor from each component society, and the Delegate(s) and Alternate(s) to the American Medical Association. The Council may employ an executive secretary who need not be a physician nor a member of the Association who may act in an ex-officio capacity at the direction of the Secretary-Treasurer.

b: Eligibility — To be eligible for election or appointment as an officer of this Association, except that of Executive Secretary, a member must possess the qualifications required by the Bylaws under Article VIII.

c: Terms of Officers — The House of Delegates at its regular meeting shall elect the following officers to serve the terms indicated: (1) President-Elect, one year; (2) Vice-president, one year; (3) Speaker of the House of Delegates, one year; (4) AMA Delegate(s) and Alternate Delegate(s), two years. (5) One-third of the members of the Council for a term of three years. (6) The Council shall elect a Secretary-Treasurer to assume office at the close of the last general session of the meeting to serve for three years. All of the officers shall serve until their successors are re-elected and installed, and each officer shall assume office at the close of the last general session of the annual meeting at which they were elected, and shall serve until the corresponding period of the annual meeting following their election, except in the case of the Councilors and the Secretary-Treasurer, and they of the third annual meeting next following their election. The AMA Delegate(s) and alternate(s) shall take office on the first of the calendar year following election for a period of two years. At the close of the last general session of the annual meeting next following his election, the President-Elect shall assume the office of President, and serve as such until the corresponding period of the following annual meeting, or until his successor assumes office at the next annual meeting. At the conclusion of the meeting at which the term of the Secretary-Treasurer is to expire, the Council shall elect a Secretary-Treasurer to assume office at the close of the last general session of the meeting and to serve until the corresponding period three annual meetings hence.

Section 2. Election of Officers

a: Nominating Committee — The President at the first meeting of the House of Delegates of the regular session, shall appoint a committee on nominations consisting of one member from each Councilor District. The committee on nominations shall report the result of its deliberations to the House of Delegates in the form of a ticket containing the name of at least one member for the office of President-Elect, of at least one member for the office of Vice-president, of a member for each of the offices to be filled at that annual meeting, and of locations for future annual meetings. No two candidates for President-Elect shall be from the same District. Whenever a councilor's term expires, the Nominating Committee shall select at least one (1) nominee for the office of councilor from each district from the list of three (3) submitted by each component district society. (See Article IV, Section 7). Each candidate for Councilor must be a resident of the District from which he is nominated.

b: Time of Election — The report of the nominating committee and the election of officers shall be the first order of business of the House of Delegates at the second session of the regular meeting of such House.

c: Nominations from the Floor — Nothing in this Article shall be construed to prevent additional nominations being made from the

floor by members of the House of Delegates.

d: Method of Election — If more than one nominee is proposed for an office the vote shall be taken by written ballot. In case no nominee receives a majority of the votes cast on the first ballot, the nominee receiving the least number of votes shall be dropped from the list of nominees and a new ballot taken. This procedure shall continue until one of the nominees receives a majority of the votes cast, when he shall be declared elected.

Section 3. Failure to Fill Office

If before the expiration of the term for which he was elected, the President or President-Elect dies resigns, is removed from office or becomes disqualified, the President-Elect or Vice-President shall succeed to the next higher office vacated. Vacancies created by the death, resignation or removal of other officers shall be filled by appointment by the Council for the unexpired portion of the term, or in the case of vacancies in the office of the Councilor or the Secretary-Treasurer, until the next annual meeting.

Section 4. Duties of Officers

a: President — The President shall preside at all meetings of the Association; shall appoint all committees not otherwise provided for; he shall deliver an annual address at such time and place as may be arranged, and shall perform such other duties as custom and parliamentary usage may require. He shall be the real head of the profession of the State during his term of office, and as far as practicable, shall visit by appointment the various sections of the State and assist the Councilors in building up the component societies and in making their work more practical and useful. He shall be a member of the Council for a period of one year immediately succeeding his term of office, known as Councilor-at-Large. He shall be an ex-officio member of all committees of the Association.

b: President-Elect — The President-Elect shall be a member of the Council, shall act for the President in his absence or disability. If the office of President should become vacant, the President-Elect shall succeed to the Presidency, serving the unfilled term prior to his own term of office.

c: Vice-President — The Vice-President shall assist the President in the discharge of his duties, and shall officiate in the absence or disability of the President and President-Elect.

d: Speaker of the House — The Speaker of the House of Delegates shall preside at the meetings of the House of Delegates, shall serve on, and be a member of the Council, and shall perform other duties as custom or parliamentary procedure require.

e: Secretary-Treasurer

(1.) Funds — The Secretary-Treasurer or his designee shall demand and receive all funds due the Association, together with bequests and devises. He shall pay money out of the treasury and shall subject his accounts to such examination as the House of Delegates may order, and shall annually render an account of his doings and of the state of the funds in his hands.

(2.) Records — The Secretary-Treasurer shall attend the general meetings of the Association and the meetings of the House of Delegates, and shall keep minutes of the respective proceedings. He shall be Secretary of the Council. He shall be custodian of all record books and papers belonging to the Association and shall keep account of all funds of the Association which come into his hands. He shall provide for registration of the members and delegates at the annual meeting. He shall, with the cooperation of the secretaries of the component societies keep a card index register of all the legal practitioners of the State by districts noting on each his status in relation to his component society, and shall transmit a copy of this list to the American Medical Association, transmitting to its Secretary each month a report containing the names of those dropped from the membership roster during the preceding month. He shall conduct the official correspondence, notifying members of meetings, officers of their election, and committees of their appointment and duties. He shall employ such assistance as may be ordered by the Council and shall make an annual report to the House of Delegates. He shall supply all component societies with the necessary blanks for making their annual reports, and shall collect from them the regular per capita assessments. The amount of his salary shall be fixed by the Council.

(3.) Bond — The Secretary-Treasurer shall give a bond in such sum as shall be fixed by the Council, the premium to be paid by the Association.

f: Executive Secretary — The Executive Secretary shall perform such duties as may be assigned to him by the Council, the Secretary-Treasurer or by the House of Delegates, and in the absence or disability of the Secretary-Treasurer shall perform the duties of the Secretary-Treasurer. The Executive Secretary shall give a bond in such sum as shall be fixed by the Council, the premium to be paid by the Association.

g: Officers Reports — All officers shall submit an annual report to the House of Delegates at the Annual Meeting.

ARTICLE VIII
Council

Section 1. Composition

The Council shall consist of the Councilors, the President, the President-Elect, the Vice-President, the immediate Past President, (Councilor-at-Large) the Speaker of the House of Delegates, the Secretary-Treasurer of the Association, and the Delegate(s) to the American Medical Association. A majority of its members shall constitute a quorum.

Section 2. Duties

a: General —The Council shall be the Board of Trustees of the Association and shall carry out the mandates and policies of the Association as determined by the House of Delegates. The Council shall have full authority and all of the prowers of the House of Delegates between annual meetings, unless the House of Delegates shall be called into session as provided by these Bylaws, or unless the House of Delegates shall by resolution otherwise specifically provide, and in performing such acts and in transacting such business shall manage and conduct all of the property, affairs, work and activities of the Association.

b: Board of Censors — The Council shall be the Board of Censors of the Association. It shall consider all questions involving the right and standing of members, whether in relation to other members, to the component societies, or to this Association. All questions of an ethical nature brought before the House of Delegates or the general meetings shall be referred to the Council without discussion. It shall hear and decide all questions of so-

cieties when an appeal is taken from the decision of an individual Councilor. Its decisions in all cases, including questions regarding membership in this Association, shall be final unless otherwise provided herein.

c: Annual Meeting — The Council through its Secretary, or his designee, shall arrange for the annual meeting of the Association, including provision of suitable meeting places and dates, arrangements for dinners, luncheons, social affairs, collecting receipts and disbursing payment of all expenses. The Council may ask the assistance of local committees appointed by the district society in which the meeting is to be held for the purpose of local arrangements, and may request advice on program content from any and all of the specialty groups in the State.

d: Appointments — The Council shall by appointment fill any vacancy in office not otherwise provided for which may occur during the interval between annual meetings of the House of Delegates; the appointee shall serve until his successor has been elected and has qualified.

e. Headquarters — The Council shall provide such headquarters for the Association as may be required to conduct its business properly.

f. Publications — The Council shall provide for and superintend the issuance of all publications of the Association, including proceedings, transactions, and memoirs and shall have authority to appoint an editor and such assistants as it deems necessary.

h. Management of Funds

(1) Budget — The Council shall adopt an annual budget providing for the necessary expenses of the Association, which shall be prepared by the Committee on Auditing and Appropriations and presented for the Council's consideration at the first meeting of the Council at the annual meeting of each year.

(2) Audit — The Council shall prescribe the methods of accounting and through a committee of three of its members, to be known as the Committee on Auditing and Appropriations, shall audit all accounts of this Association.

(3) Expenditures — All resolutions of the House of Delegates providing for appropriations or expenditures shall be referred to the Council, and all of such which are approved by the Council shall be included in the annual budget. The Council may, by order, authorize any officer or committee to expend money not provided in the budget as adopted, or to spend any money in excess of the budget limitation.

(4) Salaries — The salaries of all employees of the Association shall be fixed by the Council.

2. Annual Report — The Council shall submit an annual report to the House of Delegates, which shall specify the character and cost of the publications of the Association, the amount and character of all of its property, and shall provide full information concerning the management of all affairs of the Association which the Council is charged to administer.

Section 3. Meetings

The Council shall meet on the day preceding and the day following the annual meeting of the House of Delegates and at such times as necessity may require, subject to the call of the President or Chairman of the Council or on petition of one-third of the members of the Council.

Section 4. Duties of Councilors

Each Councilor shall be organizer, peacemaker, and censor for his district. He shall visit each component society in his district at least once a year for the purpose of organizing component societies where none exist, for inquiring into the condition of the profession, and keeping in touch with the activities of and to aid in the betterment of the component societies in his district. He shall make an annual report of his work and of the condition of the profession of each component society in his district at the annual meeting of the House of Delegates. The necessary traveling expenses incurred may be allowed on a proper itemized statement, but shall not be construed to include his expense in attending the annual meeting of the Association.

ARTICLE IX

Finances

Section 1. Revenue

a: Dues and Assessments

(1) Determinations — Funds for conducting the affairs of the Association shall consist of the annual dues and assessments which shall be determined by the House of Delegates, and shall be levied per capita on the members of the Association, provided that the House of Delegates may make exceptions to equal per-capita assessments or special assessments as it may determine in regular or special session. Dues and assessments shall be payable on or before January 1 of the year for which they are levied.

(2) Payment — The Secretary-Treasurer of each component society shall cause to be collected and shall forward to the offices of the Association the dues and assessments for its members, together with such data as shall be required for a record of its officers and members. Any member whose name has not been reported for enrollment and whose dues for the current year have not been remitted to the Secretary-Treasurer of this Association or his designee on or before March 1, shall stand suspended until his name is properly reported and his dues for the current year properly remitted.

(3) Exceptions — State or federally employed physicians who are active members of other state societies but temporarily stationed in South Dakota shall be granted membership without payment of state dues. Life and associate members shall not be required to pay dues. A new member enrolled after July 1st of each year shall be required to pay only one-half of the annual dues.

(4) Record of Payment — The record of payment of dues and assessments on file in the office of the Association shall be final as to fact of payment by a member and as to his right to participate in the business and proceedings of the Association and of the House of Delegates.

(5) Delinquency — For the purpose of medical defense a member shall be deemed delinquent from and during the period extending from January 1 of the current year until his dues and assessments shall have been received at the offices of the Association, having been remitted by the Secretary of the component society of which he is a member.

b: Additional Revenue — The House of Delegates may at its discretion authorize the creation of additional sources of revenue not inconsistent with the non-profit nature of the Association.

Section 2. Management of Funds

Supervision of the funds, investments, and expenditures of the Association is vested in the Council or in such committee as the Council may designate. (See Article VIII, Section 2, Paragraph h).

ARTICLE X
Committees

Section 1. Committee Categories

There shall be two categories of committees of the Association. These shall be standing committees, as hereinafter provided, and special committees, as authorized in Article VI, Section 7. Said committees shall report annually to the House of Delegates.

Section 2. Standing Committees

a. Designation

The standing committees of this Association shall be as follows:

Committee on Scientific Work
Committee on Legislation
Committee on Publication
Committee on Medical Defense
Committee on Medical School Affairs, Medical Education and Hospitals
Committee on Medical Economics
Committee on Necrology
Committee on Public Health
Committee on Rheumatic Fever and Heart Disease
Committee on Diabetes
Executive Committee
Grievance Committee
Committee on Cancer
Committee on Tuberculosis
Committee on Maternal and Child Welfare

b: Composition — Unless otherwise provided in these Bylaws, each of these committees shall consist of three members, each of whom shall serve for a term of three years. One member of each of these committees shall be appointed annually by the President, provided that at the next annual session one member of each of the foregoing committees shall be appointed for a term of three years, one each for two years, and one each for one year.

Section 3. Duties of Committees

a. Scientific Work — The Committee on Scientific Work shall consist of three members, of whom the Secretary-Treasurer shall be one, and shall determine the character and scope of the scientific proceedings of the Association for each session, subject to the instructions of the House of Delegates. Thirty days previous to each annual session it shall prepare and issue a program announcing the order in which papers and discussions shall be presented.

b: Committee on Legislation — The Committee on Legislation shall consist of six (6) members who shall serve for three year terms except that the first appointments shall be one, two, and three years respectively for two members each and that these members shall be appointed from each of any six District Societies in the State. The duties of this Committee shall be to study all proposed National and State Legislation affecting the public health or the medical profession, and to take such action as it deems necessary. This Committee shall report to the Council at its regular meetings.

c: Committee on Publication — The Committee on Publication shall have referred to it all reports on scientific subjects and all scientific papers and discussions heard before the Association. It shall be empowered to curtail, abstract or reject papers and discussions. The Committee shall have authority to arrange for the publication and distribution of the Journal.

d: Committee on Medical Defense — The Committee on Medical Defense shall prepare plans and establish rules for the defense of members of this Association against who suits for alleged malpractice have been brought. It may assist in the defense of any member sued for alleged malpractice if the member was in good standing and had complied with the rules of the Committee when the service on account of which suit was brought was rendered.

(1.) Organization — The Committee shall consist of five (5) members appointed by the President of the Medical Association with the advice of the Executive Committee of the Council for terms of five years, except that the first member of the Committee shall be so appointed that the term of one member shall be for one year, that of one member for a term of two years, that of one member for a term of three years, that of one member for a term of four years, and that of one member for a term of five years.

Every member of the South Dakota Bar, who is in good standing, actively engaged in trial practice, and familiar with malpractice suits, shall be potential ex-officio legal members of such Committee, and the President of the Medical Association shall designate one of such attorneys to be a member of such Committee for each separate meeting. Due consideration shall be given by the President to the appointment of the attorney, if any, who is familiar with the matter which is to be considered by such Committee.

Every member of the Medical Association shall be a potential member of this Committee. The chairman may call any member for a case with approval of the Executive Committee.

(2.) Duties — The Committee's express purpose is to review the facts and circumstances leading to all and any malpractice proceedings or threatened proceedings brought against any member of the South Dakota State Medical Association.

This Committee does not offer legal counsel to the member who is threatened or has an impending suit brought against him, but is organized for the express purpose of reviewing these cases and deciding on the merit of the suit or threatened suit and to express to the individual member its advice on professional conduct in the event of the said threatened or impending suit. The Committee shall have the power to summon any member of the Association or the Association employees to any meeting of said Committee and refusal of the member or employee of said Association shall be cited before the Council for appropriate action and in case of an Association member any advice from the Committee or further action of the impending or threatened suit will be withdrawn.

The Committee will receive reports on threatened or impending suits from any member of the Medical Association or his legal representative.

(3.) General Procedure — General procedures of operation shall be set forth by the committee and approved by the Council.

e: Committee on Medical School Affairs, Medical Education and Hospitals — The Committee on Medical School Affairs, Medical Education and Hospitals shall serve in this State for the Council on Medical Education and Hospitals of the American Medical Association, and shall have referred to it all questions pertaining to hospitals and medical education. The Committee shall consist of six members, two of whom shall be appointed each year for three year terms.

f: Committee on Medical Economics — The Committee on Medical Economics shall investigate matters affecting the economic status of physicians.

g: Committee on Necrology — The Committee on Necrology shall gather data concerning deceased members.

h: Committee on Public Health — The Committee on Public Health shall consider all matters relative to Public Health activities.

i: Committee on Mental Health — The Committee on Mental Health shall survey activities regarding Mental Health and cooperate with local and national organizations and committees on mental health. The Committee shall consist of six members.

j: Committee on Rheumatic Fever and Heart Disease — The Committee on Rheumatic Fever and Heart Disease shall cooperate with local and national organizations and committees on rheumatic fever and heart disease.

k: Committee on Diabetes — The Committee on Diabetes shall conduct activities regarding diabetes and cooperate with local and national organizations and committees on diabetes.

l: Executive Committee — The Executive Committee shall consist of the President, President-Elect, Vice-President, Secretary-Treasurer, Speaker of the House, and Chairman of the Council. Its duties shall be advisory in nature to the various officers and committees when indicated, and it shall function when asked to do so by any one of them. It shall also have other functions as delegated from time to time by the House of Delegates or by the Council.

m. Grievance Committee — The Grievance Committee shall consist of five past-presidents of the Association, who shall serve five years except that the first appointments shall be one, two, three, four, and five years respectively.

The Committee shall receive grievances, investigate the facts, attempt to mediate the dispute, or refer such grievances to the proper authorities, and to educate the profession in the ethics of the practice of medicine.

Rules of procedure of the Committee shall be submitted to the Council for approval.

n: Committee on Cancer — The Committee on Cancer shall make appropriate studies of the problem of cancer and shall represent the Association in liaison with the state and national lay-sponsored cancer societies.

o. Committee on Tuberculosis — The Committee on tuberculosis shall make appropriate studies and recommendations for the control of tuberculosis.

p: Committee on Maternal and Child Welfare — The Committee on Maternal and Child Welfare shall be charged with the study of problems relating to that field.

Section 4. Cooperation with Committees

Any member of this Association who shall willfully refuse or fail to assist or cooperate with the investigations of any Association Committee, especially the Grievance Committee and the Medical Defense Committee, may be subject to disciplinary action of the Council of the Association. This disciplinary action shall be taken by the issuance of a citation directed to the member, which citation shall specify the time and place of hearing thereon and shall be served either personally or by registered mail. Upon citation such member shall be given full opportunity to explain his refusal to cooperate with the committee or committees.

The Council upon such hearing, may excuse the non-cooperation, censor the member, suspend him for a definite period of time, or expel him from membership. If the circumstances warrant, and by a majority vote of the members of the Council, the citation may provide that such a member is suspected until the time of the hearing fixed by the citation.

ARTICLE XI
Rules of Order

The deliberations of this Association, the House of Delegates and the Council shall be conducted in accordance with parliamentary procedure as defined in Robert's "Rules of Order, Revised."

ARTICE XII
Amendments

These Bylaws may be amended at any annual meeting by a majority vote of the delegates present at that meeting if the proposed amendment has been properly submitted to the members of the House of Delegates not less than thirty days prior to such annual meeting.

ARTICLE XIII
Repeal of Previous Bylaws

On the adoption of these Bylaws, all previous Constitution and Bylaws and motions of record, and rules and regulations in conflict with these Bylaws are hereby repealed, provided that all officers, delegates and elected committee-men now in office shall continue their incumbency until their successors are duly elected as provided in these Bylaws.

Constitution and Bylaws — Adopted May 7, 1929, by the House of Delegates at the 28th annual session at Mitchell, South Dakota.

Amended May 17, 1933; May 15, 1935; May 10, 1938.

Revised and adopted May 30, 1949, by the House of Delegates at the 68th annual session, Yankton, South Dakota.

Amended May 1950; May 1951; May 1952; May 1954; May 1955; May 1956; May 1957; June 1959.

Revised and adopted May 15, 1960, by the House of Delegates at the 79th annual meeting, Aberdeen, South Dakota.

Committee on Revision of Constitution and Bylaws
C. Rodney Stoltz, M.D., Watertown, Chairman
A. K. Myrabo, M.D., Sioux Falls
E. J. Perry, M.D., Redfield

PLAN TO ATTEND

THE 79th ANNUAL

MEETING OF THE

SOUTH DAKOTA STATE

MEDICAL ASSOCIATION

IN ABERDEEN, MAY

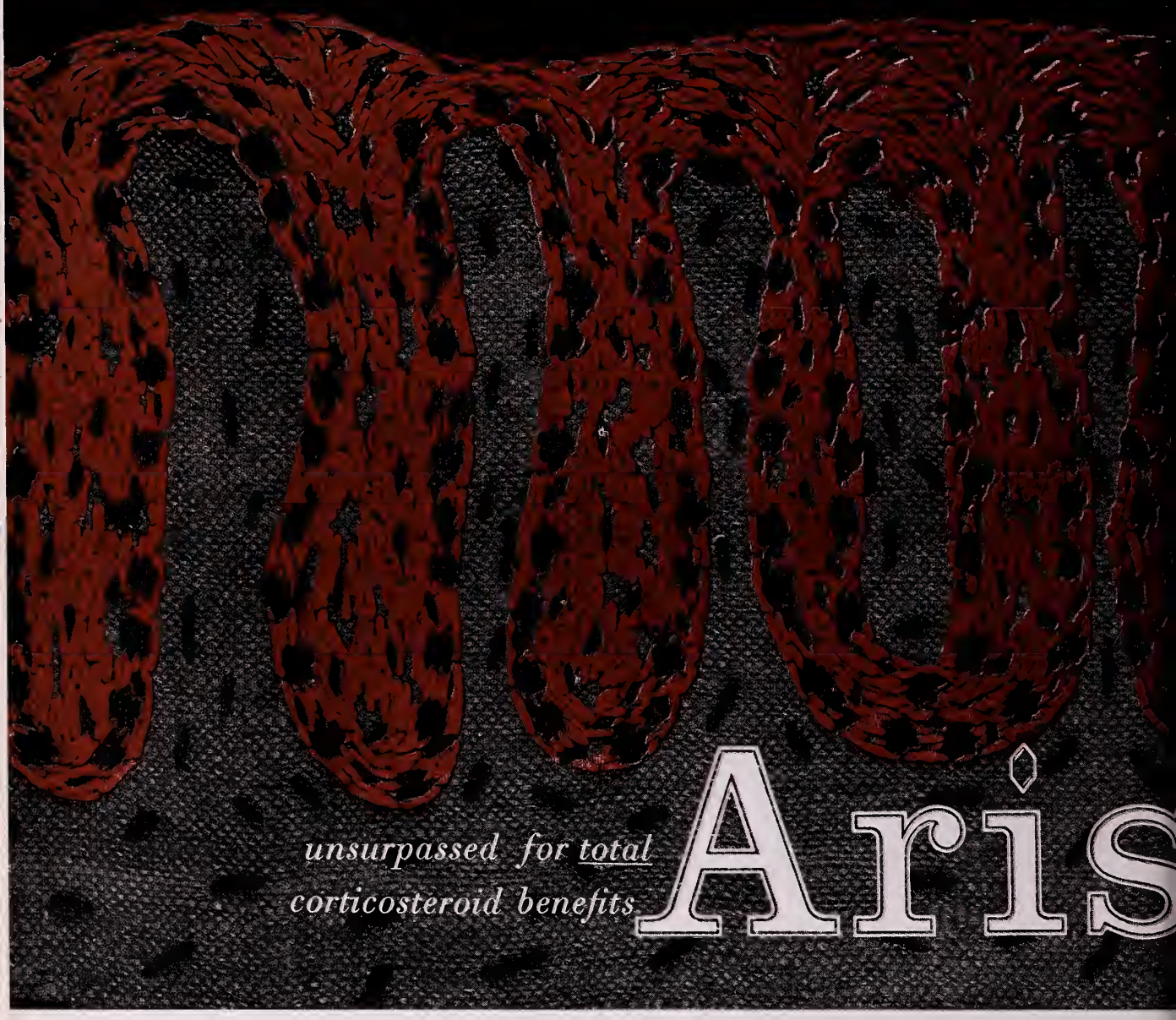
14-15-16-17, 1960



Entertainment for the banquet of the 79th Annual Meeting of the South Dakota State Medical Association will be the Hut Four Quartette of Minneapolis. Dinner music and dance music will be provided by the Audrey Arntz Combo of Aberdeen. Plans for the gala May 16th evening include a social hour before the dinner as well as dancing after the affair.

The Hut Four group is well known in the Twin Cities for their close harmony and wide repertoire.

in allergic and inflammatory skin disorders (including psoriasis)

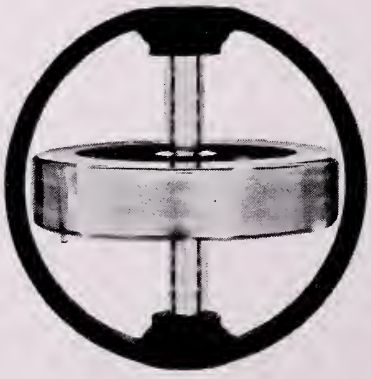


unsurpassed for total corticosteroid benefits

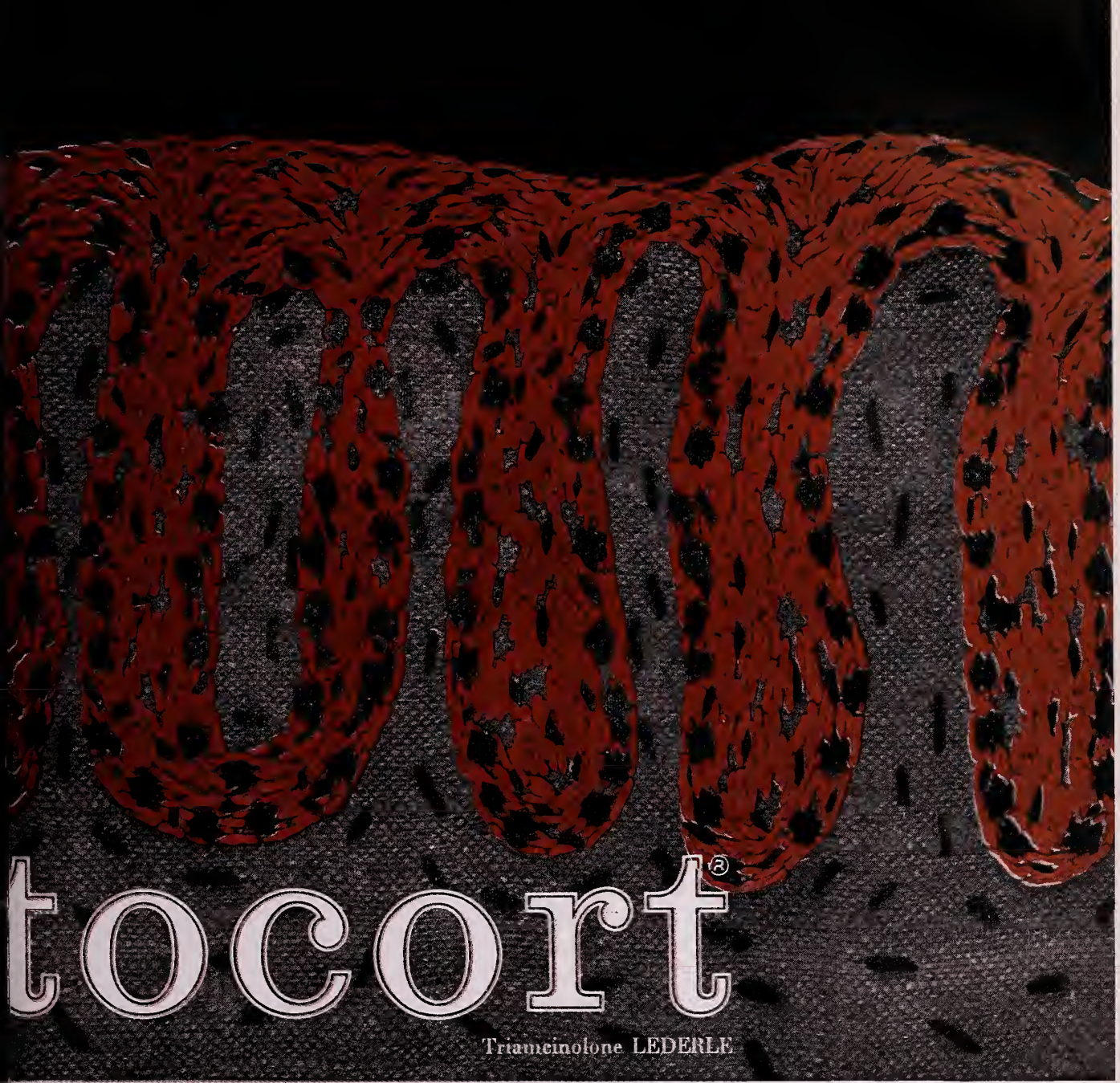
Aris

Substantiated by published reports of leading clinicians

- **effective control** of allergic and inflammatory symptoms[1-3,7,8,12-15,17,18]



- **minimal disturbance** of the patient's chemical and psychic balance[1,4-18]



At the recommended antiallergic and anti-inflammatory dosage levels, ARISTOCORT means:

- **freedom from salt and water retention**
- **virtual freedom from potassium depletion**
- **negligible calcium depletion**
- **euphoria and depression rare**
- **no voracious appetite — no excessive weight gain**
- **low incidence of peptic ulcer**
- **low incidence of osteoporosis with compression fracture**

Precautions: With ARISTOCORT all traditional precautions to corticosteroid therapy should be observed. Dosage should always be carefully adjusted to the smallest amount which will suppress symptoms.

After patients have been on steroids for prolonged periods, discontinuance must be carried out gradually over a period of as much as several weeks.

Supplied: 1 mg. scored tablets (yellow); 2 mg. scored tablets (pink); 4 mg. scored tablets (white); 16 mg. scored tablets (white).

Diacetate Parenteral (for intra-articular and intrasynovial injection). Vials of 5 cc. (25 mg./cc.).

References: 1. Feinberg, S. M.; Feinberg, A. R., and Fisherman, E. W.: *J.A.M.A.* 167:58 (May 3) 1958. 2. Epstein, J. I., and Sherwood, H.: *Conn. Med.* 22:822 (Dec.) 1958. 3. Friedlaender, S., and Friedlaender, A. S.: *Antibiotic Med. & Clin. Ther.* 5:315 (May) 1958. 4. Segal, M. S., and Duvenci, J.: *Bull. Tufts N.E. Medical Center* 4:71 (April-June) 1958. 5. Segal, M. S.: Report to the A.M.A. Council on Drugs, *J.A.M.A.* 169:1063 (March 7) 1958. 6. Hartung, E. F.: *J. Florida Acad. Gen. Practice* 8:18, 1957. 7. Rein, C. R.; Fleischwager, R., and Rosenthal, A. L.: *J.A.M.A.* 165: 1821 (Dec. 7) 1957. 8. McGavack, T. H.: *Clin. Med.* (June) 1959. 9. Freyberg, R. H.; Berntsen, C. A., and Hellman, L.: *Arthritis & Rheumatism* 1:215 (June) 1958. 10. Hartung, E. F.: *J.A.M.A.* 167:973 (June 21) 1958. 11. Zuckner, J.; Ramsey, R. H.; Caciolo, C., and Gantner, G. E.: *Ann. Rheumat. Dis.* 17:398 (Dec.) 1958. 12. Appel, B.; Tye, M. J., and Leibsohn, E.: *Antibiotic Med. & Clin. Ther.* 5:716 (Dec.) 1958. 13. Kalz, F.: *Canad. M.A.J.* 79:400 (Sept.) 1958. 14. Mullins, J. F., and Wilson, C. J.: *Texas J. Med.* 54:648 (Sept.) 1958. 15. Shelley, W. B.; Harun, J. S., and Pillsbury, D. M.: *J.A.M.A.* 167:959 (June 21) 1958. 16. DuBois, E. L.: *J.A.M.A.* 167:1590 (July 26) 1958. 17. McGavack, T. H.; Kao, K. T.; Leake, D. A.; Bauer, H. G., and Berger, H. E.: *Am. J. M. Sc.* 236:720 (Dec.) 1958. 18. Council on Drugs: *J.A.M.A.* 169:257 (January) 1959.

Lederle LEDERLE LABORATORIES, A Division of AMERICAN CYANAMID COMPANY, Pearl River, N. Y.

This is your

MEDICAL ASSOCIATION

NEWS • NOTES • • • BIRTHS • • • CHANGES • NEWS

Pop's Proverbs

There are still patients who are interested in getting well, regardless of the diagnosis. I know, because I have taken care of some of them.

AMEF SHOWS STEADY INCREASE

The conclusion of the 1959 year found a marked increase in funds contributed by physicians to medical education through the American Medical Education Foundation.

The Foundation closed the 1959 books on January 31st, 1960, with a total of $1,195,-824.79, an increase of $75,-780.10 over the 1958 total which included a gift from the American Medical Association of $100,000. **The total increase in contributed money, therefore, is $175,-780.10, or a 17.2% increase over the contributed amount of the preceding year, not including the AMA grant.** The two-year increase in the actual amount of contributions, discounting AMA grants, is an extraordinary 36.7%.

TRUDEAU SCHOOL FORTY-FIFTH SESSION

The Trudeau School of Tuberculosis and Other Pulmonary Diseases, which will hold its Forty-fifth Session from June 6th to 24th, 1960, continues to provide a unique opportunity for training in the field of chest diseases. This annual postgraduate course, conducted under the auspices of the Trudeau Foundation and supported by the Hyde Foundation, is able to provide outstanding instruction at a minimal tuition of $100.00 for a three weeks session. Attendance at the Trudeau School carries with it some distinction as well as a thorough review for specialization in pulmonary diseases or for work in public health involving tuberculosis.

SIOUX FALLS DISTRICT HEARS DR. KRANTZ

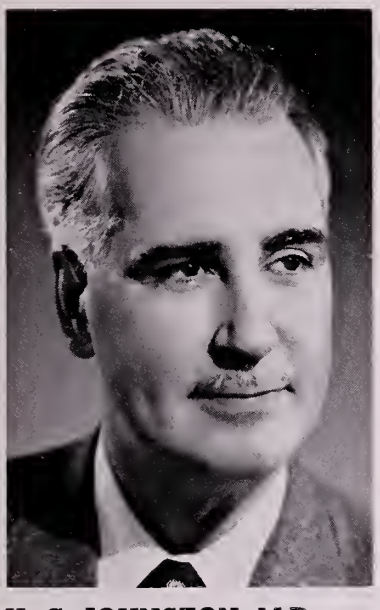
Dr. Kermit Krantz of the University of Kansas Medical Center, was the guest speaker at the Seventh District Medical Society meeting in Sioux Falls on March 1st. He used as his subject, "The Problem of Cystocele."

Also appearing before the group was Charles Johnson, field representative of the American Medical Association who discussed problems of national legislation.

LOCAL CHAIRMEN NAMED FOR MEETING

Dr. William Gorder, president of the 1st District Medical Society, has named local chairman for the annual meeting May 14-17 in Aberdeen.

Dr. Paul McCarthy is general chairman assisted by **Dr. C. L. Vogele,** Trap Shoot, **Dr. Granville Steele,** Golf, **Dr. William Taylor,** Hospitality and **Dr. John Rodine,** Stag Party.



K. C. JOHNSTON, M.D. IS GUEST SPEAKER

Dr. Johnston, Clinical Associate Professor of the Department of Otolaryngology at the University of Illinois, will speak on, "Respiratory Emergencies in The Newborn and Early Childhood" on the Monday session, May 16th, at the Annual Meeting.

NEWS NOTES

Dr. W. E. Martyn who practiced in Aberdeen from 1946 to January, 1960 with an interuption in 1952 when he was recalled to active duty, has located in Spokane, Washington.

* * *

Dr. G. W. Mills, Wall and **Dr. F. E. Manning,** Custer have both indicated that they will be candidates for the State House of Representatives.

* * *

Dr. Donald Fedt, Watertown, completed a two-week post graduate course at Cook County Hospital in Chicago in February.



JOHN E. HARRIS, M.D. TO SPEAK TO EENT GROUP

Dr. John E. Harris, Professor and head of the Department of Ophthalmology at the University of Minnesota Medical School, will be a guest speaker on the EENT Program. Dr. Harris's topic will be "Recent Trends in the Therapy of Ocular Disease."

F. C. Totten, M.D., Lemmon, was named "Boss of the Year" at the annual awards banquet of the Lemmon Chamber of Commerce.

* * *

Dr. E. W. Urbanyi, Gettysburg, has moved into a new clinic building which he shares with a local dentist.

* * *

Contracts for the new research wing of the medical school building were awarded in late February.

* * *

Dr. G. F. Ressel, Denver, has joined the staff of the Homestake Mining Company.



INHALATION THERAPY IS ANNUAL MEETING SPEAKERS SUBJECT

Albert H. Andrews, Jr., M.D., Associate Clinical Professor of Bronchoesophagology, University of Illinois College of Medicine, will speak on "Inhalation Therapy in Respiratorty Diseases" on Monday May 16th at the Annual Meeting in Aberdeen.

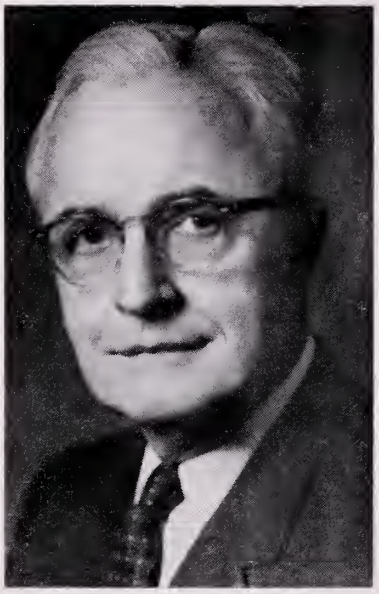
Dr. Bernard Gerber, Aberdeen, delivered a paper before the Central Surgical Association in Chicago in mid-February.

* * *

Dr. C. E. Duncan, a resident of Roslyn, S. D. for 20 years, passed away at St. Louis, Mo., in February.

AUXILIARY CELEBRATES 50th ANNIVERSARY

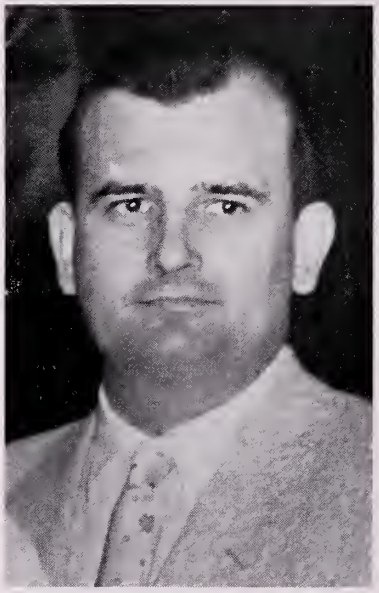
The Auxiliary to the South Dakota State Medical Association will celebrate its 50th anniversary when it meets in Aberdeen May 15, 16, 17.



GASTROENTEROLOGIST ON ANNUAL MEETING PROGRAM

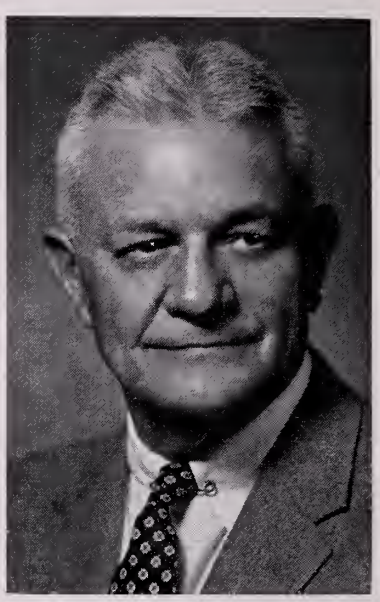
Dr. William Travis Gibb, Washington, D. C., will speak on the topic, "The Internist Looks At The Problem of Esophagogastric Varices," on the Annual Meeting program, May 16.

Dr. Gibb is Chief of the Department of Medicine at Suburban Hospital in Bethesda, Maryland and chairman of the Department of Gastroenterology at Washington Hospital Center.



RADIOLOGIST TO BE GUEST SPEAKER AT ANNUAL MEETING

Dr. Joseph Jorgens of Minneapolis will speak on "Cinefluorography Motion Picture Fluoroscopy" on the Tuesday morning program at the annual meeting, May 17. Dr. Jorgens has been Chief of Radiology at the Veterans Administration Hospital in Minneapolis since 1952.



Dr. John M. Berkman To Speak At Annual Meeting

Dr. Berkman, Consultant in Medicine in the Mayo Clinic and Associate professor of Medicine in the Mayo Foundation, will speak at the Annual Meeting May 17th, on "The Diagnosis of Anorexia Nervosa."

Mrs. P. Preston Brogdon, Mitchell, state president of the Auxiliary has announced special activities to commemorate the event. Local president Mrs. John Rodine and chairman, Mrs. B. F. King are working with Mrs. Brogdon and other Auxiliary officers on convention plans. Mrs. William Mackerfie, Detroit, will be the guest from the national organization.

BLUE SHIELD CITES GAINS

More than 44,700,000 persons were enrolled in the various Blue Shield Plans located in North America as of December 31, 1959, the National Association of Blue Shield Plans reported today in Chicago. Total membership in the Plans reached 44,792,923 at the end of the past year, which represents an enrollment of 24 per cent of the total United States population and nearly 15 per cent of the total Canadian population.

"The net gain in membership for 1959 amounted to 2,217,667, which is significant improvement over the 1,096,203 gain for the year 1958, "the national association also indicated in its year-end report.

Several Blue Shield Plans recorded impressive enroll-

ment gains during the past year. The Blue Shield Plan serving the Province of Ontario registered a net gain of 379,092 members during 1959, while the Pennsylvania Blue Shield Plan added 247,435 members and the Chicago Plan 166,691 members.

INTERNISTS TO MEET IN SWITZERLAND

The 6th International Congress of Internal Medicine will be held in Basle, Switzerland, August 24-27, 1960. For more information write to the Secretary of the 6th International Congress of Internal Medicine, Steinentorstrasse 13, Basle 10, Switzerland.

MEDICAL COSTS TO BE STUDIED

A "Commission on the Cost of Medical Care," to delve into every phase of medicine where cost or spending is involved, was announced by the American Medical Association today. An initial grant of $100,000 was appropriated to launch the study.

"This study-project is being undertaken," said Dr. Louis M. Orr, Orlando, Fla., president of the A.M.A., "because the American public is spending increasing amounts of money for all types of medical care. These expenditures involve the peoples' lives, health, and pocketbooks. We would like to find where economies may be achieved in the best interests of the patient. The commission will analyze the cost picture from every angle and try to come up with some sound advice and suggestions."

The commission, whose members will be announced shortly, will serve as a "little Hoover Commission" to study all medical care costs, including doctors' fees, hospital charges, nursing cost, drug expenditures, and health insurance premiums.

Dr. Orr said that American medicine is "tackling the cost problem in order to help people better meet their obligations when illness strikes, and to help clarify the confusion that exists relative to such cost."

The American Medical Association, Dr. Orr said, is "well aware that more physician-patient relationships have been strained by a misunderstanding about fees than perhaps any other disagreement. Is such misunderstanding due to lack of frank discussion between doctor and patient, or is there some other reason? A patient has every right to know why he needs treatment or surgery, what it will consist of, and what it will cost — particularly where major services are rendered.

It is hoped, Dr. Orr added, that the study will also provide some sound advice for the consumer on how to get the most benefit from his health dollars.

In conducting this study, the A.M.A. commission will consult economists, health insurers, prepayment plans, hospital representatives, a cross section of patients, and others whose knowledge and opinions will be helpful.

Members of the commission will be announced shortly, and it is expected to be functioning this spring.

FIFTY YEAR CLUB IN AMA FORMED

A fifty Year Club of the American Medical Association is being organized under the leadership of Dr. J. H. McCurry of Cash, Arkansas. It is designed to be a social function for physicians who have been in practice for fifty years or more.

Plans call for a get-together at each clinical meeting of the AMA and each member will receive a lapel button. No dues will be charged. Interested persons should contact Dr. McCurry.

PHYSICAL MEDICINE CONGRESS IN AUGUST

The Third International Congress of Physical Medicine will be held August 21-26, 1960 inclusive, at The Mayflower, Washington, D. C.

The preliminary prospectus covering the international conference carries in detail information on registration, application to present a paper, a scientific exhibit, a scientific film, etc. A copy of this preliminary program may be had on request by writing: Dorothea C. Augustin, Executive Secretary, Third International Congress of Physical Medicine, 30 N. Michigan Ave., Chicago 2, Illinois.

WORKSHOP CONFERENCE APRIL 26-28

The joint Spring Workshop Conference of the South Dakota Hospital Association and South Dakota League For Nursing will be held April 26-27-28, 1960, at the Marvin Hughitt Hotel, Huron, South Dakota.

Tuesday, April 26, will feature a "Cost Finding Workshop" conducted with the assistance of Ray Matylewicz of the American Hospital Association, and a "Hospital Clinic" conducted by the South Dakota Hospital Association.

Wednesday, April 27, will be a joint meeting with the South Dakota League For Nursing. A program of "Beter Patient Care Through Education" will include the following topics: Better Patient Care Through an Inservice Education by Bertha L. Boekelheide, South Dakota State College, Brookings, South Dakota; Better Patient Care through The American Hospital Association Library Service by Helen Yast, Librarian, American Hospital Association, Chicago, Illinois; Better Patient Care Through Education Programs for Hospitals and Nurses by Mary Miller, National League for Nursing, New York, New York; and Better Patient Care for Tuberculosis Association.

A business session of the South Dakota League for Nursing will convene Thursday morning, April 28, to conclude at 5:00 p.m., that same evening.

Evening highlights will include a fun night on Tuesday, April 26; and a banquet the evening of April 27, with Leonard Jennewein, instructor of History and English, Dakota Wesleyan College, Mitchell, South Dakota, as featured speaker.

Drs. John C. Hagin, Miller, **A. P. Reding,** Marion, and **V. C. Marr,** Estelline were among South Dakotans at the American Academy of General Practice meeting in Philadelphia.

MIAMI BEACH OFFERS IDEAL CLIMATE, DIVERSE ACTIVITIES FOR A.M.A. MEETING

Miami Beach, a lush chain of islets set in the sparkling Atlantic, promises ideal weather and vast entertainment facilities for the 109th annual meeting of the American Medical Association, June 13-17.

The meeting is A.M.A.'s first in Miami Beach since the winter of 1954.

The fabled resort area offers the ultimate in sun and fun — temperatures averaging from 75 to 85 in June and a variety of activities to fit every taste.

Miami Beach escapes the extremes of heat and cold by virtue of the arm waters of the Gulf Stream and its peninsular location. In summer, the sun is tempered by fleecy clouds and occasional rain.

The beauty of the city is enhanced by the trees, shrubs and flowers that bloom in abundance in private gardens and public parks.

An estimated 125,000 visitors can be accommodated in Miami Beach at any given time. Including metropolitan Miami, there are a total of 917 hotels and motels with 55,600 rooms.

The waters of the Atlantic and Biscayne Bay offer ample opportunity for swimming, skiing, skin diving and fishing.

There are miles of beaches dotted with palms, water ski schools and coral reefs for skin divers to explore. Sail boats and motor boats may be rented.

Fishing boats also are available for charter. One of the most popular sports is Gulf Stream trolling for sailfish, marlin and other salt-water heavyweights. Freshwater fishermen will find game fish in bay and inlet waters, such as tarpon from 10 to 150 pounds or more.

Sightseers can enjoy a breathtaking view of scenic residential islands and waterfront estates from the deck of modern cruisers that ply the bay. A glass bottom sightseeing boat, "The Mermaid," also operates from the City Yacht Basin.

For golfers, there are two championship courses in Miami Beach, 12 others in the city of Miami.

Shopping is a pleasant pastime along palm-lined Lincoln Road stretching from the bay to the ocean. Many of the shops are branches of world-famous houses.

For nighttime diversion, Miami Beach features some of the nation's top stars and revues at smart supper clubs along with many fine restaurants. Summer menus usually include fish served fresh from the water.



HAROLD S. BAILEY, PH.D.
EDITOR
Division of Pharmacy
South Dakota State College
Brookings, South Dakota



CHOLESTEROL:
A MAJOR MEDICAL ENIGMA*
Part IV
"The Anti-Coronary Club"

No one has yet determined exactly how linoleic acid works against cholesterol. It appears to be a "clearing factor" similar to that which the body has naturally. After a meal rich in saturated fats, especially butter, there is a shower of heavy fat molecules in the blood, causing a milky appearance. This milkiness will clear normally in four to seven hours. It is speculated that this "clearing factor" is the lipases, which break the heavy fat molecules down into smaller particles, thus permitting their absorption into body tissue.

The introduction of a high concentration of linoleic acid into the body during this period will quickly clear up the milkiness. If these fat molecules are not broken down and absorbed before another "shower" of them occurs, the blood will contain an excess almost all the time.

(It is the opinion of some researchers that the reason the majority of heart attacks occur at night is because traditionally Americans eat their largest meal before retiring, thus showering the blood with a large amount of heavy fat molecules at a time when the heart should be working less hard. They propose, therefore, that the heavier eating should be done earlier in the day, since the body is better able to cope with heavy fat loads during waking hours.)

High concentrations of linoleic acid are contained in a number of medicines available, made from unsaturated oils naturally rich in this acid. These are expensive and untasty, and when taking one of these the patient usually must adhere to an unpalatable low-fat diet.

Obviously one can obtain this linoleic acid by drinking a daily amount of the pure oil — a procedure that is often recommended by physicians — but the undesirability of this needs no discussion. And again, the patient would have to sacrifice his table spread and other saturated fats to make this method effective.

Several years ago it was proposed by many

* The last of a series of four articles summarizing present day thinking on the problems of cardiovascular diseases and lipid metabolism. Material for this article was supplied through the courtesy of Edward Gottlieb Associates. (Part I, II and III will be found in the January, February and March 1960 issues.)

thoughtful researchers that the ideal approach to dietary control of cholesterol would be through the use of a tasty unsaturated table spread — shortening that would be rich in essential linoleic acid. This product would obviously permit a person to "have his cake and eat it too" by serving as an acceptable substitute for the saturated spreads and shortenings so widely in use. In effect, the user would be taking his "medicine" in the form of tasty food . . . an admittedly more pleasant approach to the problem of cholesterol.

In the highly-respected publication, WHAT'S NEW, (1957, No. 202), an article on coronary heart disease concluded with this statement:

"Increased amounts of 'essential' unsaturated fatty acids may be required to metabolize the heavy load of saturated fatty acids in our civilized diet. Certainly the addition of a palatable source of unsaturated fatty acids to a normal diet offers the most convenient and most efficient means of reduction of blood lipid levels." . . .

At that time no such product existed. But in April of 1958 Emdee Margarine was introduced, and it is not surprising that it was developed in the research laboratories of a major pharmaceutical company, rather than by a food manufacturer, considering the complicated nature of the problem and the vast amount of medical knowledge required.

Acceptance of the product by the medical and pharmaceutical professions was immediate and enthusiastic. This margarine has also made research on dietary control of blood cholesterol easier, since it is a readily accepted substitute for saturated spreads and shortenings. The largest, most promising of these studies is being carried out now by the Bureau of Nutrition, Department of Health of New York City. Officially known as the Diet and Coronary Heart Disease Project, it is popularly known as "The Anti-Coronary Club." The project is being run by Dr. Norman Jolliffe, head of the Bureau. Dr. Seymour H. Rinzler, of the Bureau, is the cardiologist in charge.

This project began on June 3, 1957 when the first volunteers were obtained. Today there are 600 males in the study.

The first report was published in the July-August 1959 issue of **The American Journal of Clinical Nutrition,** and concerned 79 males who had stayed on the specially-designed diet for six months or longer. These subjects continued to lead normal lives, except for the special diet and the medical examinations required.

The overall objective of the project is, as its name says, a dietary approach to the prevention of coronary heart disease. To accomplish this objective, Dr. Jolliffe and his colleagues are attempting to do the following:

1. Develop practical diets for use by the general public that will replace special unpalatable diets, and will at the same time be nutritionally adequate.

2. Demonstrate that if a person in his normal environment can be induced to modify his diet over a long period, the blood lipids, as measured by the cholesterol-lipoprotein system, will be favorably influenced.

3. Demonstrate whether a favorable change in the cholesterol-lipoprotein system produced and maintained by diet is associated in fact with favorable change in morbidity and mortality from coronary heart disease, particularly in men under 65.

While this study will continue for a total of five years, this preliminary report gives evidence that the researchers are on their way to proving their objectives . . . and possibly to a major revelation in the control of heart disease.

In the current report they conclude:

"This study demonstrates that the serum cholesterol level of a group of subjects can be significantly lowered (although not necessarily optimally) by adherence to a diet containing 9-11 per cent of total calories as poly-unsaturated fatty acids with the saturated fatty acid component comprising 7-8 per cent of total calories . . .

"The prudent diet is practical and can be followed by the vast majority of sufficiently motivated subjects for at least six months, and

"That this diet significantly lowers the average blood cholesterol level over a period of six months."

The "prudent diet" the authors refer to is quite interesting. It was designed to be palatable as well as nutritious, and is composed of easily-obtainable foods. In the study a prudent diet pattern, utilizing the recommended foods, was prescribed for each sub-

ject, since food needs vary from individual to individual, depending on a number of factors.

The prudent diet foods include those high in protein, such as cottage-type cheese, veal, fat-free milk, chicken, turkey, fish, seafood, egg whites and leaner cuts of beef, mutton, lamb and pork, with all visable fat removed.

The diet is balanced with adequate amounts of bread, cereals, nuts, vegetables and fruits.

The diet does not permit the following, except under unusual circumstances: butter, ordinary (partially hydrogenated) margarine and shortenings, lard, cream, or foods containing these in large amounts, such as most cakes and pastries. In place of butter and margarine, the researchers advise "an 80 per cent unaltered corn oil margarine"; in place of shortening they recommended either corn oil or "a specially prepared 80 per cent unaltered corn oil margarine"; in place of cream they suggest an emulsion of corn oil.

Another study of the "Effect of a Practical Dietary Regimen on Serum Cholesterol Level" was reported in the May 16, 1959, issue of **The Journal of the American Medical Association.** Conducted at the Central State Hospital, Indianapolis, this study involved 300 institutionalized patients under conditions permitting rigorous control. The study was conducted for nine months and during this time the meals were carefully planned to be nutritious, palatable, well balanced and adequate for a population engaged in moderate physical activity.

Writes the authors: "The same food was served the staff as the patients, and the meals were uniformly referred to as being good. The control diet was simply a continuation of the regular diet in which butter, hydrogenated fats, and vegetable oils were customarily used either on the table or in the kitchen. The treatment diet was essentially the same, except that corn oil margarine was substituted routinely for these solid fats and was used as a table spread as well as for all cooking, baking and frying, and, when melted, as a seasoning agent for vegetables. In the preparation of salad dressings and in other places where a liquid oil was desired, corn oil was used exclusively."

Their summary: ". . . it was found that a regimen employing a nonhydrogenated corn oil margarine for other solid fats as the principal dietary alteration was effective in achieving and maintaining a reduction in blood cholesterol levels. The dietary alteration was accomplished simply, easily, and inconspicuously, and with an excellent degree of patient acceptability."

Weight loss in this study was insignificant, the maximum change for either sex being about 2.2 pounds. (In Dr. Jolliffe's study the average weight loss for the six months period among the 79 men was 1.3 pounds.)

A Statement for Guidance

While present evidence does strongly indicate that blood cholesterol plays an important role in atherosclerosis, and that the dietary approach seems to be one route by which we will help to solve this problem, a great amount will have to be learned yet before medical science can announce that it has scored a "breakthrough" against atherosclerosis.

While this important research is going on, a group of prominent physicians, greatly concerned by the mounting evidence against a number of factors which are believed to predispose a person to arteriosclerosis, heart attack and stroke, have issued a "Statement for Guidance" to the public which, they feel, will help lessen the chance of suffering one of these ills. This statement was initiated by the National Health Education Committee, Inc., New York City:

"Arteriosclerosis with its main killers — Coronary Thrombosis (Heart Attack) and Brain Thrombosis (Stroke) — is by far the leading cause of death in the United States and in most other countries of Western Civilization. Recent and current researchers provide hope for improved treatment of arteriosclerosis and possibly for preventive measures. The following Statement of Guidance summarizes useful information on these points. While we realize that a definitive statement may be modified, at least in part, by future research, nevertheless, we believe that on the basis of current evidence and our experience this statement provides information that will prolong life for many at this time.

"How to Try to Lessen Your Chances of Being a Victim of Arteriosclerosis and Its Main Killers — Coronary Thrombosis (Heart Attack) and Brain Thrombosis (Stroke)"

"Factors which predispose you to arteriosclerosis, heart attack, and stroke are:

"1. Hereditary — Did either of your parents or grandparents suffer from or die in the prime of life or earlier from these diseases? See your physician.
"2. Overweight — Are you more than ten pounds above your desirable weight? See your physician.
"3. Elevated Blood Cholesterol Level—See your physician.
"4. Elevated Blood Pressure — See your physician.
"5. Excessive Cigarette Smoking — Do you smoke too much? See your physician.

"Hard work itself is often wrongly blamed for this disease. In fact, regular, moderate, physical activity appears to lessen the hazards of arteriosclerosis.

"If you have a strong hereditary background regarding arteriosclerosis of the heart and brain, it is most important that you minimize the effect of the other factors. You are 'stuck' with your heredity, but you can influence the other factors, and hence lessen your chances of being a victim of arteriosclerosis. Consult your doctor, and if desirable, try to reduce to your proper weight, try to reduce your blood pressure, your blood cholesterol level, and your smoking."

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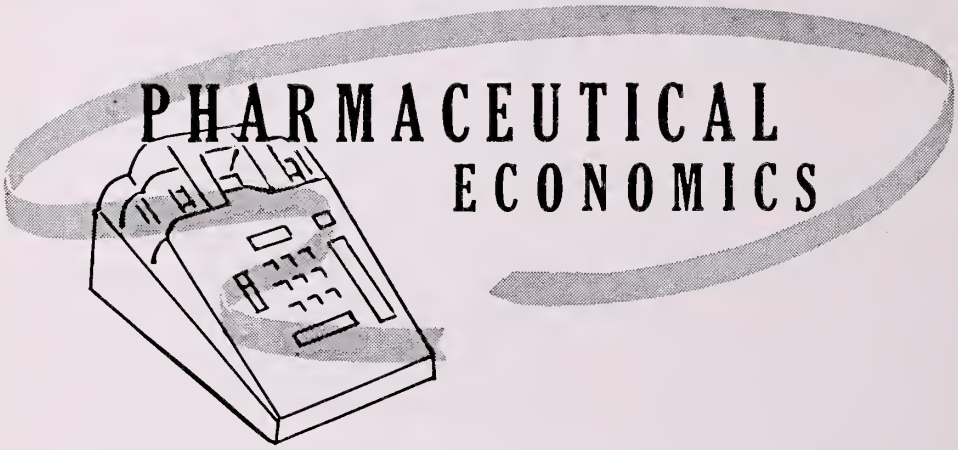
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PHARMACY REMODELING FEATURES 45-FOOT GONDOLA

A 45-foot long gondola as well as relocation of the prescription department and soda fountain are features of the remodeled Shirley Pharmacy in Brookings, South Dakota. This is the first major remodeling of this pharmacy since it was purchesed by J. C. Shirley from Clyde Tidball in January 1946. Plans drawn by Walgreen Agency converted the store from its original 80 feet length with 20 feet in the rear taken up by office and prescription department to 117 feet of store space with the last 7 feet a receiving room and fountain supply area. Major changes in addition to the gondola were the placing of the soda fountain in the rear and the prescription department in front. The soda fountain area is now a luncheonette and is called the "Coffee Cove."

The prescription department is placed well forward in the front of the store and is raised slightly so that the pharmacists have a better view of the entire store area. Another convenience of this arrangement is that the prescription department is placed between the check-out and the patent and proprietary medicine sections. This was done in order to save steps for the professional pharmacy staff. Another feature of the prescription area is the neon Rx sign over the prescription department, which serves also as a night light. A refrigerated biological case, prescription accessories, hospital supplies and first aid items are displayed to good advantage in front of the prescription case.



The raised prescription department of the newly remodeled Shirley Pharmacy, Brookings, South Dakota, placed conveniently between the check-out and the patent and proprietary section in order to save steps for the pharmacist.

The newly remodeled pharmacy is furnished with a complete communications system. Appropriate soft music is played for the benefit of staff and customers throughout the day. The system also doubles for use in calling customers to the prescription area for prescriptions and provides a connection with the office located in the basement.

As the accompanying photo shows, open displays are complete throughout the store. These include the 45-foot gondola stretching from the prescription area back to the fountain area, as well as three other 12-foot gondolas. One of these 12-foot gondolas is devoted exclusively to animal health products. A refrigerator for biologicals nearby and a pegboard display for instruments over the stairway are outstanding features of this animal health department.



Interior of the newly remodeled Shirley Pharmacy, Brookings, South Dakota, showing the big gondola which encourages customers to move clear through the store shopping the whole area.

Each gondalo is fitted with two stationary and three adjustable shelves. In addition the ends of all four gondolas are adaptable to almost any type of display situation. Wall shelving includes three slant sections. All fixtures were purchased from Swain Meyers of Decator, Illinois.

The magazine rack is located immediately inside the front door on the right when entering. As one progresses toward the rear, then comes three American greeting card racks and a gift wrap department. Regular wall shelving progresses from this point to the rear of the store.

As can be seen from the picture of the entire store, customer traffic is led straight through to the back of the store by the large gondola. This encourages customers to shop the whole area.

White is the predominant color for the store decoration. When signs are needed, they are all painted in red. To further carry out this theme even the delivery car is painted white with red lettering.

The check-out section of the new store is located beside the prescription department. A new change-computing cash register and charge account system has been added to this section. The charge account system operates in conjunction with the cash register and the books are always posted. This eliminates that daily procedure.

At present the office for the store is located in the basement along with a truss fitting room. Adequate storage as well as prescription area overflow is also located in the basement.

Not only was the inside of the store remodeled but external changes were also made. A marquee and new sign are changes from the old awning and a new glass door replaces the old front. The same script on the front sign is used throughout all advertising copy. This includes stationery and prescription labels. Rear end traffic into the pharmacy is encouraged. A covered trash bin, planter box and painted white rear wall with appropriate sign make this an attractive entrance.

New floor tile throughout the store and new lighting are all part of this complete change. The lighting consists of two rows of slim line reflectorized fluorescent tubes as well as lighted cornices around the store.

Partners in operation of Shirley Parmacy are Gerrit Heida and Chan Shirley. Both registered pharmacists are graduates of the Division of Pharmacy, South Dakota State College. Mr. Heida became a partner in the firm February 1st of this year.

Although the store has been completely changed by remodeling, this self service arrangement is operated by only one more employee than was formerly the case. Mr. Shirley hastens to emphasize, however, that personal service has not been sacrificed for self service. Shirley said "I have always made every effort to comply with customer's wishes and will continue to do so in our new surroundings."

PRESIDENT'S PAGE

Rx



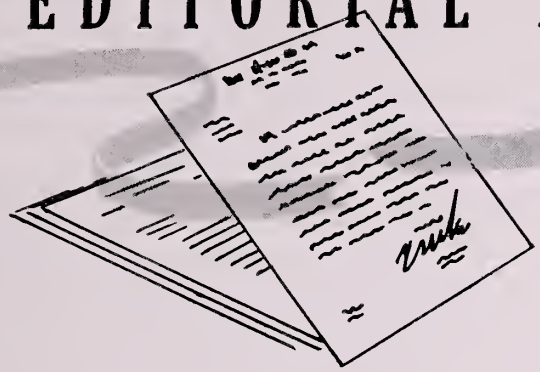
Fellow Pharmacists:

An excellent example of interprofessional relations was demonstrated recently when the members of the 10th District Medical Society invited the pharmacists in their area — along with your president — to attend their meeting. The pharmacists in attendance thoroughly enjoyed the evening of business and social events that had been planned for them. This meeting exemplified the excellent relationship that can exist between medicine and pharmacy. Our sincere thanks to the fellows at Rosebud for their hospitality.

Traveling to this meeting via a giant circle route took me on a tour of towns ranging from Mobridge to Sturgis-Rapid City in the west and back via Winner, Pickstown, Miller in the south and central portion of the state. I was able to visit in thirty stores during the three days. It has been a pleasure to visit with so many of you in your stores.

Willis Hodson
President

EDITORIAL PAGE



WHERE DO WE GO FROM HERE?

The damage caused by the inaccurate and misrepresented data concerning the pharmaceutical industry by the headlines — seeking Kefauver committee has been done. We are now that much further down the road toward the evils of socialized medicine. Although it was the pharmaceutical industry that was investigated, we should make it very clear that all segments of the public health are involved in this matter. As an example, a recent issue of a newsletter sent to members of the International Union of Electrical workers stated:

"Aroused by the fantastic prices charged for drugs, IUE district 5 has launched an all-Canada campaign under the slogan, 'Let us put our own price control on drugs.' Members of all IUE locals in district 5 have been instructed to ask the doctor to prescribe a required drug by its scientific name rather than its brand name. Members have been told that the doctor has no valid medical reason for refusing. If then the member has trouble with the pharmacist, the IUE has available names of druggists all over Canada who will fill the prescription without making difficulties. The IUE has asked for government price control on prescription drugs, and has demanded Prime Minister Diefenbaker launch an inquiry. The Minister of Justice has promised an inquiry, but that might drag on for months or years. A short term solution, said district 5, is price control, through demanding drugs by scientific name rather than brand name."

It has also come to our attention that the Connecticut State Welfare Department recently said that, "Effective January 1, 1960, the Welfare Department will not pay for tradename preparations when pharmacologic and therapeutic equivalents are available at lower prices under USP, NNR, or generic names."

Thus it is that we now have the incredible situation created whereby the patient can **tell** the doctor exactly what drug he should prescribe. It is also obvious that the union members have been misled when told that "the doctor has no valid medical reason for refusing." Obviously, the many brand name items of a single chemical entity may vary in their duration of action, possible blood levels, onset of action and many other valid medical reasons for prescribing a particular formulation of a drug rather than some other.

There is little doubt but what this type of activity will spread unless the public can be made aware of the dangers to the public health resulting from a deterioration of the traditional physician-pharmacist-patient relationship.

Low generic prescription prices can result from the production of these items by low overhead drug manufacturers having little

or nothing in their research budgets and marginal quality control. It should be evident to all thinking members of the several health professions that, over the long run, this situation will result in a reduction in both fundamental and applied drug research by those manufacturers whose heavy research budgets can only be supported by adequate sales of brand name products.

It is this writer's contention that this problem belongs to all segments of the health professions, and that it is up to every pharmacist, physician, nurse and public health worker to enter into a public relations program to combat this menace. Where do we go from here? We hope that the combined efforts of all the public health professions will find the answer to that question in such a way that the drastic mistakes of socialized medicine will not be a dismal blot on the record of man's progress toward better health in our country — Harold S. Bailey.

* * *

Americans are spending twice as much money for recreation, alcoholic beverages and tobacco as they are for medical care, the Health Insurance Institute reported recently.

Two out of every 18 dollars the public spends for its personal needs goes for recreation, alcohol or tobacco compared to an expenditure for medical care of one out of every 18 dollars, said the Institute.

According to data based on 1958 figures and released by the U. S. Department of Commerce, Americans spent $293 billion on their personal needs.

Some $17 billion of this sum, or 5.8 per cent, was spent for recreation while $9.2 billion (3.1 per cent) went for alcohol and $6.3 billion (2.1 per cent) was used to purchase tobacco products, for a total of $32.5 billion, or 11 per cent of total personal consumption expenditures.

In comparison, $16.4 billion (5.6 per cent) was spent on medical care, stated the Institute. Other public expenditures in 1958 included $67 billion for food, $38 billion for housing, nearly $34 billion for transportation, $32 billion for clothing, accessories and jewelry, almost $4 billion for religious and welfare activities, and $3.4 billion for education and research.

The distribution of each dollar spent for medical care changed sharply in the period from 1938 to 1958, said the Institute.

In 1958, physicians and dentists received a smaller share of the medical care dollar than they did in 1938, while hospitals, medicines and appliances received a larger share.

From each dollar of the $2.7 billion spent for medical care in 1938, physicians received 30 cents, but by 1958 doctors were getting 26 cents out of each dollar.

An even sharper drop in distribution of the medical care dollar was experienced by dentists, whose share of 15 cents on the dollar was reduced to 10 cents.

The slack was taken up by hospitals, medicines and appliances, declared the Institute. Twenty-two cents out of every medical care dollar spent in 1938 was for hospital services, but by 1958, this slice of the dollar was up to 31 cents. Hospitals attribute this rise to the expansion of hospital services and their greater utilization which has increased the number and variety of skilled personnel required.

The rise was less dramatic in medicines and appliances, which climbed from 26 cents to 27 cents.

The amount spent for all other medical needs, which include other professional services and nursing home care, dropped from seven cents to six cents.

THE STORY OF THE MERCK INDEX

Announcement of the forthcoming seventh edition of **The Merck Index** should be of interest to the large number of chemists, pharmacists, physicians, dentists, veterinarians, botanists, and members of allied professions who are familiar with previous editions of this widely used reference work.

Historically, the first edition of this comprehensive reference work, then known as **Merck's Index,** was published in 1889. A much smaller book than later editions, the title page read in part: "Merck's Index of Fine Chemicals and Drugs for the Materia Medica and the Arts — Comprising A Summary of Whatever Chemical Products Are To-day Adjudged As Being Useful In Either Medicine or Technology." There followed a lengthy foreword, describing the purpose and contents of the book, and concluding with the expressed wish that this edition "may be a Welcome Visitor not only to whomever it calls upon; but may prove so useful as to be asked to 'come again'."

The second edition, bearing the title **Merck's 1896 Index** and published early in that year, was designated as "An Encyclopedia For The Physician And The Pharmacist of the Chemicals and Drugs Used in Medicine, in Chemistry, and in the Arts."

In the Preface to this edition it was stated, in part, that:

> The purpose of **Merck's Index** is to provide, for all who have to do with Medicinal and Chemical matters, **one handy volume,** as a ready means of quickly and reliably answering questions of fact that may arise in **any** direction, in the midst of their work. Instead of having to consult **several** Materia Medica manuals, Chemical dictionaries, Dispensatories, or other works of different scopes, the reader will here find **all** those various directions of research simultaneously considered, in **one** alphabetic, concise, and lucid series of descriptive paragraphs, under the heads of the several substances concerned.

The third edition was titled **Merck's 1907 Index** and was described as "An Encyclopedia for the Chemist, Pharmacist and Physician." In the Preface to this edition, it was stated that:

> In order to bring the Index up to date in this edition we have added the newest products, adopted the latest nomenclature, consulted the most modern authorities, and for the Merck products, verified the data in our laboratories and our works. Furthermore, we have added the crude drugs of commerce and have indicated under each drug the dose of its extracts, tinctures, fluidextracts, etc., instead of grouping all extracts, tinctures, etc., together as in the previous edition of the Index.

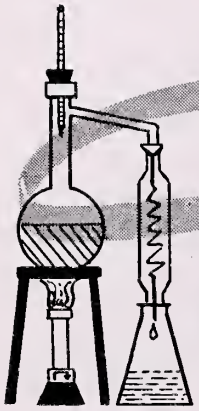
The fourth edition of **Merck's Index,** published in 1930, contained the following prefactory statement:

> **Merck's Index** perhaps needs no introduction; rather is an explanation due for the tardy publication of this the fourth edition — over two decades after the appearance of the previous issue. This delay was caused largely by the complete interruption of work on the book in both laboratory and editorial rooms during the World War.

In January, 1940, the Fifth Edition of this well-established and highly regarded reference work appeared in a new form and dress, and with its title changed to **The Merck Index.** This edition was designated as "An Encyclopedia of Chemicals and Drugs for the Chemist, Pharmacist, Physician, Dentist and Veterinarian." It comprised 1,060 pages — almost twice the number of the previous edition — and it contained more than 5,900 description of individual substances.

> After a 12-year lapse during World War II, the sixth edition appeared in 1952. In 1,200 pages, this volume expanded the scope of its predecessor and comprised approximately 20,000 names of chemicals and drugs, alphabetically arranged and cross-indexed, more than 2,000 structural formulas, and nearly 7,500 descriptions of individual compounds. Approximately one hundred pages of appendices contained coal-tar colors for food, drugs and cosmetics; indicators; tables of metric and United States system of weights and measures and their equivalents; thermometric equivalents; specific gravity comparisons; constant humidity solutions; boiling and solidification temperatures of liquids; refractive index of liquids; saturated solution; percentage solution tables for apothecaries and metric systems; first-aid in poisoning; radio-active isotopes commonly used in medicine; radioactive isotopes of interest to the chemist; named organic reactions; atomic weights and their multiples and logs.

The seventh edition of **The Merck Index,** which is of the same style as the preceding edition, is printed in larger page size on English finish paper, bound in a dark blue Sturdite cover which is resistant to water, acid, and mildew, and stamped in gold. This edition significantly amplifies the scope and content of the previous version. Up-dated in every respect and expanded by 400 pages, the new book is priced to meet costs, as a professional service.



Advances In Drug Research

NEW WEAPONS AGAINST BLOOD CLOTS

The cluster of medical catastrophes grouped under the heading thromboembolic disorders has always posed a major problem to the practitioner. In the case of a coronary attack, a cerebral accident, or a pulmonary embolism, there is an underlying condition which makes another such episode extremely likely even if the victim manages to survive the first one. Prevention of recurrence must be a primary goal of treatment, but the means are not obvious.

Best estimates have it that more than a million Americans each year are stricken with new diseases caused by clots and emboli. Until the close of World War II, medical conservation was the rule. Fortunately many victims of coronary heart disease survive for a relatively long time, but this made a strict evaluation of drugless therapy very difficult.

In the case of stoke — sometimes caused by hemorrhage but much more often due to thrombosis of a blood vessel in or leading to the brain — the problem was even more difficult. No known treatment has been shown to do any good whatsoever. Excellent rehabilitation studies had shown that stroke-crippled patients could resume useful activity, but such rehabilitation could not save them from a second or third stroke.

Into this fog of ignorance and near hopelessness, the American Heart Association in 1946 sent a massive task force. One hundred investigators in sixteen large hospitals studied 1,031 cases of coronary disease. Alternate patients received anticoagulants — the oldest of which had been administered to the first human patient only ten years before — the remainder were treated conservatively and served as controls. The observations were made between 1946 and 1948, and another six years were consumed in tabulating and evaluating the data. The results of the study, however, were well worth the effort expended. It was found that only two-thirds as many deaths occurred among treated patients as among controls during the two-year period, and little more than half as many nonfatal thromboembolic complications.

Still more impressive results have recently been achieved, in part because of greater experience in treating patients with anticoagulants and improved laboratory tests for measuring the coagulability of the patient's blood, in part because of the introduction of

superior anticlotting drugs. According to Dr. Arthur J. Seaman of the University of Oregon, studies conducted in the past several years in leading medical centers have shown a reduction of one-half to five-sixths in deaths among coronary patients on long-term anticoagulant therapy. Similarly, new coronary attacks — both fatal and non-fatal — have been reduced by fifty to more than ninety per cent.

A survey early in 1959 indicated that anticoagulants are now prescribed, for a time at least, for more than half of all patients suffering coronary attacks. President Eisenhower is among those who have benefited from anticoagulant treatment. An anticlotting drug was prescribed for him soon after his heart attack in September, 1955.

The Problem of Stroke

In 1942, Dr. Irving S. Wright and associates at the New York-Cornell Medical Center initiated a trial of long-term anticoagulant therapy in patients suffering from the repeated formation of emboli as a result of old rheumatic heart disease and coronary disease. Among other things, the treatment reduced the lodging of emboli in the brain, an otherwise all-to-frequent occurrence in patients with thrombotic disease. This encouraged the Wright group to attempt, beginning in 1946, the treatment of patients who had suffered strokes.

There was no thought that anticoagulants could undo the destruction of brain tissue resulting from long-existing blood clots; even if anticoagulants could dissolve clots; brain tissue, once destroyed, does not regenerate. The purpose of Dr. Wright and his colleagues was to see what might be done to prevent new strokes in patients who had already had at least one stroke. The Wright group followed 100 such patients for periods of up to ten years. Since therapy was discontinued in most of them, for various reasons at one time or another during the study, it was possible to use these patients as their own controls; that is, a comparison could be made between the number of new thrombi and emboli occurring during the months they were on anticoagulants and those when they were without anticoagulants. In 2,842 patient-months without anticoagulation, there were 229 thromboembolic episodes (including 67 cerebral); in 2,291 patient-months with anticoagulant treatment, the number of thromboembolic episodes was 20 (including 5 cerebral) — a reduction of 90 per cent in both cerebral and other thromboembolic attacks.

The new note struck by Dr. Wright and his colleagues in the treatment of stroke has recently been reinforced by recognition that there are some forms of stroke that can be diagnosed and treated at an early stage — before permanent damage has been done. In a considerable proportion of stroke patients, the obstructing clot takes weeks or even months to develop, during which it may produce signs of impending trouble — temporary loss of vision, brief periods of unconsciousness or loss of sensation, and the like. One instance of this is the so-called basilar artery syndrome, stemming from the growth of a clot in the basilar artery, one of the principal arteries supplying the brain. Similar syndromes have been traced to obstructions of the carotid and vertebral arteries, two other major vessels involved in blood supply to the brain.

Some patients with these impending-stroke syndromes can be helped by vascular surgery (when the clot is in a blood vessel outside the brain proper). Striking results have likewise been achieved with anticoagulants. In one study, for example, Dr. Clark H. Millikan and associates at the Mayo Clinic, treated with anticoagulants 317 patients with strokes in evolution — as a result of carotid, basilar, and vertebral artery clots — but whom irreversible brain damage had not yet occurred. Anticoagulants halted progress of the disease and saved all but 18. Anticoagulants can make a significant dent in the vast problem of clot-caused strokes, responsible for over 125,000 deaths a year in the U. S.

The Anticoagulants

In 1936, Dr. Gordon D. W. Murray of the Universary of Toronto administered the anticlotting drug heparin — for the first time in a human being — to a patient suffering from thrombophlebitis, an inflammation caused by a blood clot, usually in a leg vein. The Toronto surgeon's act opened a new era of preventive treatment not only for thrombophlebitis but a host of other widespread, dangerous ailments involving blood-vessel clots. At the time Dr. Murray had enough heparin — the first useful anticoagulant then known — for only a few patients; colleagues at the

University of Toronto had prepared it in pure form just a short while before. Today more than a dozen different anticoagulant drugs are known, and the patients using them number in the millions.

Anticoagulants prevent the development of new clots, the extension of old clots and the formation of emboli (daughter clots that break off from a parent clot and migrate to other parts of the body). They do not dissolve already existing clots. A drug that can accomplish the latter — fibrinolysin or Actase — has also been developed within the past year, but will not reduce the need for agents to prevent clots; the two kinds of drugs will be used together, the clot-dissolving drug to remove existing clots, the anticoagulants to prevent new ones from forming.

But formidable difficulties had to be overcome before the anticlotting drugs were developed for use.

Heparin was originally discovered in 1916 by Jay McLean, a John Hopkins medical student. McLean's professor, Dr. William H. Howell (who coined the name heparin for McLean's substance because it had been found in an extract of liver) quickly recognized that heparin possessed great potential importance in medicine. However, the best extracts they could make were too toxic for use in patients. Suitable heparin preparations (extracted from beef lung, a better source of the anticoagulant than liver) were not made on a laboratory scale until the mid-1930's, and not on a commercial scale until just before World War II.

Even then, the difficulties were far from over. Heparin has no effect when given by mouth. It has to be given by intravenous drip or by injection at frequent intervals (originally, every few hours; with preparations now available, once a day). These are hardly procedures suitable for long-term treatment in large numbers of patients.

About the time the first commercial heparin preparations were introduced, another anticoagulant was discovered by a group of biochemists at the University of Wisconsin headed by Dr. Karl Paul Link. This was coumarin, a substance present in spoiled sweet clover hay and the cause of the hemorrhagic disease that develops in cattle fed spoiled sweet clover.

Coumarin, as a drug, can be taken by mouth and may be manufactured by chemical synthesis. But its introduction (as Dicumarol) was attended by difficulties. The chief of these were that patients varied unpredictably in their response to Dicumarol and that laboratory tests for checking on the clotting power of the Dicumarol-treated patient's blood were unreliable and difficult to perform. Hemorrhage as a result of overtreatment was a serious hazard.

One consequence of these difficulties was an intensive search for new anticoagulants — a search that was itself marked by frequent discouragement, though practically useful compounds were found. Three main classes of anticoagulants were investigated in numerous laboratories around the world. One consisted of the heparinoids, compounds chemically similar to heparin. The second comprised derivatives of Dicumarol. The third was composed of the indanediones, a group of chemical synthetics first found to have anticoagulant properties a decade ago.

Only recently has the newest anticoagulant been added to this class of valuable medicines. Tradenamed Miradon, the new agent is chemically 2-p-anisyl inanedione, or anisindione, and it was developed by the Schering Corporation. Extensive clinical trials have shown that Miradon can be given orally in a single daily dose, allows ready stabilization and control of the clotting power of the patient's blood, evokes minimal drug resistance, and maintains an effect upon the patient's blood for no more than twenty-four hours after the cessation of treatment.

Other Thromboembolic Disorders

In the foregoing brief account of the development of anticoagulants and anticoagulant therapy, there have been references to various thromboembolic ailments. A great deal more is known about these conditions than was known even a few years ago, and a detailed discussion seems called for.

For instance, rheumatic heart disease often leads to clots in the chambers of the heart, which may give rise to cerebral emboli. Embolism is also a frequent complication of thrombophlebitis; indeed, embolism is the principal fear in thrombophlebitis, for emboli from leg-vein clots frequently lodge in a lung artery, resulting in the ominous development known as pulmonary embolism.

Thrombophlebitis may occur after child-

birth, abdominal surgery, long periods in bed or even sitting in a cramped position for many hours. A considerable number of older persons in Europe developed it from long hours of sitting in air-raid shelters during the war. It can arise from sluggish flow of blood through the veins, injury of the wall of a vein, or a combination of the two.

Prior to World War II, thrombophlebitis developed in about two per cent of surgical patients, and in significant proportions of maternity and medical patients. There seemed little the doctor could do except cut or tie off the affected veins in order to prevent any embolus that might form from migrating to the lungs. Then came two developments which have greatly diminished the problem of thrombophlebitis after surgery and childbirth. One was early ambulation — getting the patient up within a day or two, or even the day of surgery or delivery. The other new development was the introduction of anticoagulants for patients who develop leg-vein clots despite early ambulation or for other reasons. Space allows the citation of only one of many studies that have shown the value of anticoagulants in thrombophlebitis. Over a five-year period, Dr. John Marks and his colleagues at the University of Cambridge Hospitals in England treated 1,135 patients with anticoagulants for thrombophlebitis. There were only three deaths in the entire group, all from pulmonary embolism (one after treatment had stopped and two during treatment). Moreover, treated patients were out of bed an average of thirty-five days sooner than thrombophlebitis patients not given anticoagulant treatment.

A very difficult problem remains nevertheless. In spite of the demonstrated effectiveness of anticoagulants in preventing it, pulmonary embolism is still a prominent cause of death. One reason for this is the large increase in recent years in the number of older persons undergoing surgery (for such ailments as cancer); the elderly are much more susceptible to thromboembolic disorders than the young. Another is that leg-vein clots do not always signal their presence by producing pain or other noticeable symptoms. Often, the first sign of trouble is a pulmonary embolism. Several studies have shown that timely anticlotting therapy can cut the proportion of patients in whom additional and fatal pulmonary emboli may occur from thirty-five to as few as five per cent. But there are patients whose first embolism is fatal. What is needed is some means of picking them out before the first embolism, so that they may be given preventive anticoagulant treatment.

Although the ailments enumerated above represent the principal applications, anticlotting drugs are also utilized in dealing with other thrombotic conditions, such as retinal thrombosis (thrombosis of the blood vessels serving the retina of the eye, a condition that can lead to blindness if not checked). In addition, anticoagulants are essential in open-heart and vascular surgery, to prevent clotting during the surgery.

How Anticoagulants Work

In the majority of patients, anticoagulant therapy is started with heparin, and the patient is then switched to an anticoagulant of the coumarin or indanedione type. This is necessary because heparin and the heparin-like anticoagulants alone take effect immediately. The coumarins and indanediones work in a quite different way and generally require several days to lower the coagulability of the blood.

Coagulation of blood takes place by a remarkable process which has been studied for a century and which is not yet fully understood. Essentially what happens is this: In the presence of calcium, thromboplastin, released by injured cells, reacts with prothrombin to form thrombin. Thrombin then reacts with fibrinogen to form fibrin. Fibrin is insoluble, and forms the clot.

Heparin is found in many tissues. Its function in the body, however, is not clear; ordinarily, so little heparin is found in blood that experts are unwilling to believe that it has any part in keeping the blood fluid under normal conditions. It prevents clotting by interfering with several steps of the coagulation process.

Anticoagulants of the coumarin and indanedione types act by depressing the formation of prothrombin in the liver. This is why they need several days to reduce the clotting power of the blood: the supply of prothrombin already in the blood must first be reduced to levels well below normal.

THE MONTH IN WASHINGTON

Congress has been warned against acting on legislation to provide health care of the aged before receiving the recommendations of next year's White House Conference on Aging.

Rep. Noah M. Mason (R., Ill.), ranking minority member of the House Ways and Means Committee which handles such legislation, put in the Congressional Record an exchange of correspondence with former Rep. Robert W. Kean (R., N. J.), Chairman of the National Advisory Committee supervising preparations for the White House Conference next January.

Rep. Mason said the correspondence, "reveals the reason why Congress should await the results of the Conference."

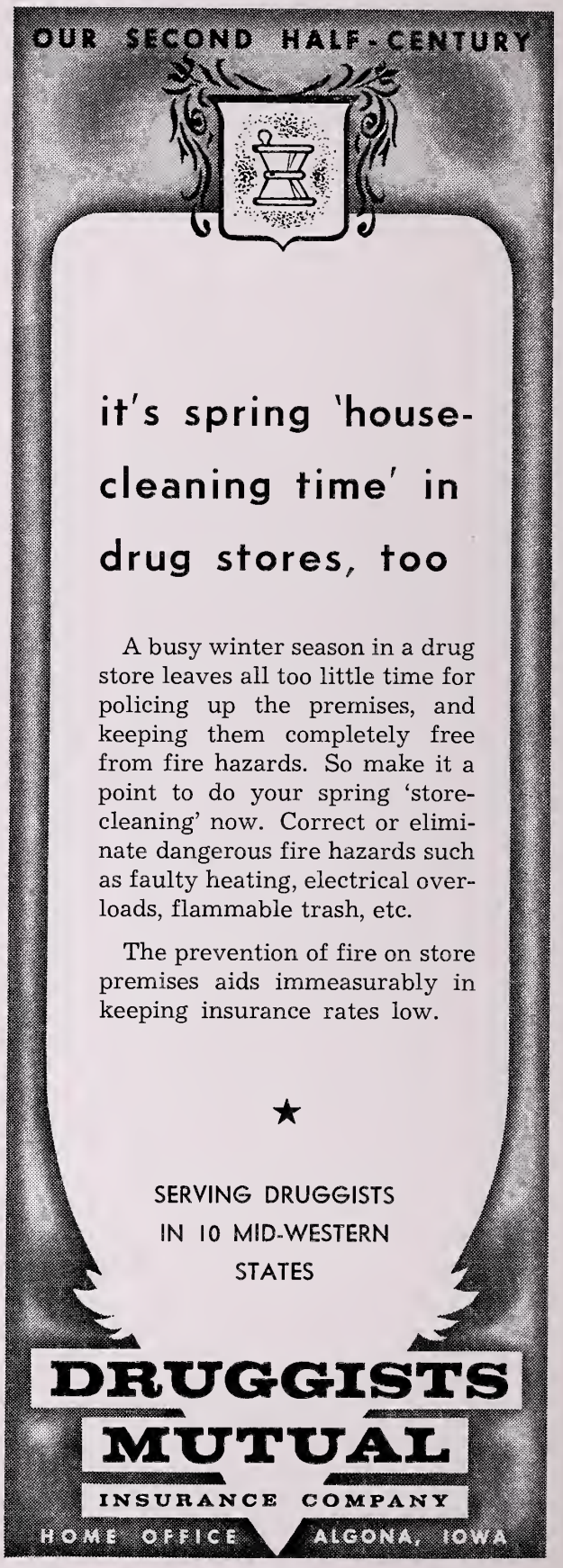
"Let us not waste the $2 million we have already appropriated to bring thousands of good minds together to suggest solutions to problems of our aging population," Rep. Mason said. "Certainly we should get the benefit of their advice rather than enact legislation in haste and without proper study."

Dr. F. J. L. Blasingame, Executive Vice-President of the American Medical Association, also voiced this warning in a radio interview while he was in Washington for conferences with White House aides and Arthur S. Flemming, Secretary of Health, Education and Welfare.

Dr. Blasingame said that it would be "neither practical nor realistic" for Congress to act on such legislation until the White House Conference and other sources had compiled "more conclusive and complete information" on a nationwide basis.

Dr. Blasingame and other AMA representatives emphasized to President Eisenhower's aides and Flemming that the medical profession is unalterably opposed to any legislation, such as the Forand bill, that would use the Social Security system to provide health care for the aged.

In his letter to Mason, Kean predicted that "in all probability" most of the White House Conference's recommendations would be for "state and local activity" in dealing with the problems of the aged. Kean said that action at the state and local level "seems most effective."



PROGRAM

Pharmaceutical Institute
Division of Pharmacy

South Dakota State College

Wednesday, April 27

1:00- 1:30	Registration, Faculty Lounge, Union Building
1:30- 2:00	Welcoming Addresses ..... Dr. H. M. Briggs President, South Dakota State College Willis Hodson President, South Dakota Pharmaceutical Association Dr. Floyd J. LeBlanc Dean, Division of Pharmacy
2:00- 3:00	Some Problems in Veterinary Medicine ..... Dr. Lloyd D. Jones Associate Professor of Veterinary Science
3:00- 3:15	Coffee Break
3:15- 4:15	Insecticides for Home and Garden Use ..... Dr. Kenneth Redman Professor of Pharmacognosy
4:15- 5:00	Films—Tranquilizing Agents Introductory Remarks ..... Dr. Guilford C. Gross Professor of Pharmacology
5:00	Group Picture
6:30	Dinner, Union Ballroom Annex Speaker ..... Miss Emily Frisby Professor of Weather Engineering

Thursday, April 28

8:45- 9:45	Another New Product ..... Dr. Gary W. Omodt Asst. Professor of Pharmaceutical Chemistry
9:45-10:00	Coffee Break
10:00-12:00	Tour and Demonstrations Manufacturing Pharmacy Laboratory ..... Dr. Norval E. Webb Associate Professor of Pharmacy Radioisotope Laboratory ..... Dr. Harold S. Bailey Professor of Pharmaceutical Chemistry Kenneth Urquhart Graduate Assistant, Pharmaceutical Chemistry
12:00- 1:00	Luncheon, Union Ballroom Annex
1:00- 2:00	Pharmacy Legislation in Minnesota ..... Joseph Vadheim Retail Pharmacist and State Senator, Tyler, Minnesota
2:00- 3:00	Legislative Proposals for 1961 ..... Bliss Wilson Secretary, South Dakota Pharmaceutical Association
3:00- 3:30	Concluding Remarks ..... Dr. Guilford C. Gross

Rx PHARMACY News

KAPPA EPSILON TO HOST PROVINCE 8 MEETING

Women pharmacy students from a four-state area will convene on the South Dakota State College campus in April for a province meeting. The occasion is the annual meeting of Province 8 of the Kappa Epsilon national professional fraternity for women students of pharmacy. Province 8 includes chapters in North Dakota, Minnesota, Montana and Chi Chapter at South Dakota State College. The theme of the convocation this year will be "Pharmacy in Orbit."

Officers of the State College group include Delores Johnson, president, of Gaylord, Minnesota; Sharon Mix, vice president, of Brookings; Excellda Watke, secretary-treasurer, of Alvord, Iowa; Deanna Sell, historian, of Sioux Falls; Audrey Evenhuis, chaplain, of Hawarden, Iowa; and advisor, Mrs. Norval Webb, of Brookings.

PHARMACEUTICAL INSTITUTE TO BE HELD IN APRIL

The Pharmaceutical Institute, the annual refresher course sponsored by the Division of Pharmacy, South Dakota State College, and the South Dakota Pharmaceutical Association, will be held on the State College campus April 27 and 28. A varied program of talks, films and demonstrations has been scheduled for area pharmacists.

Starting with registration in the Faculty Lounge at the Union Building from 1 to 1:30, Wednesday, April 27, the program will carry through until 3:30 the afternoon of Thursday, April 28. Topics to be covered include veterinary medicine, insecticides, tranquilizing agents, new drug products and pharmacy legislation. Those attending the Institute will also be shown a demonstration of the equipment in the new manufacturing pharmacy and radioisotope laboratories of the Division of Pharmacy. Speaker at the dinner Wednesday evening will be Miss Emily Frisby, Professor of Weather Engineering, South Dakota State College.

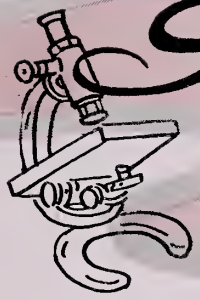
A complete program of the two-day meeting appears elsewhere in this issue.

STUDENTS SPONSOR HEART FUND DRIVE

Approximately 100 students of the Division of Pharmacy, South Dakota State College, conducted the annual Heart Fund Drive, Sunday, February 28, in the city of Brookings. This is the fifth year that the Heart Fund Drive in Brookings has been conducted entirely by students of the Division of Pharmacy.

Leadership for the project was provided by members of the Kappa Psi and Kappa Epsilon fraternities at the college. Members acted as area captains, assembled all of the campaign literature and workers' kits and distributed display material.

The approximately $1,400 collected was the largest amount received in any Heart Fund Drive in Brookings.



Scientific PAPER

COEXISTING RUPTURED ECTOPIC AND INTRA-UTERINE PREGNANCY

Charles R. Turner, M.D., F.A.C.S.
Brookings, South Dakota

Report of a case of ruptured ectopic pregnancy with survival of the intra-uterine fetus and subsequent normal delivery

Intra-uterine and extra-uterine pregnancy, sometimes called "combined pregnancies," is a condition presenting uncommon embryological aspects, unusual anatomical relationships, and extraordinary clinical phenomenon. Stimultaneous ectopic and intra-uterine pregnancies occur about once in every 30,000 pregnancies. Coexisting uterine and extra-uterine pregnancy is not extremely rare, although is uncommon in the experience of any one physician. The condition has been recognized as far back as 1722, and the first review of the literature on this subject was by Gutzweiller in 1893. Novak in 1926, reviewed a series of 276 cases. A total of 435 cases have been reviewed through February 1956, by Vasicka and Grable. In this review of 435 heterotopic pregnancies, 46 or 10.6%, progressed simultaneously to viability. Mall calculated that 1% of all ectopic pregnancies reached term. The site of implantation and the anatomical location determined the progress and the fate of the fertilized human ovum. There was a relatively high incidence (23.9%) of ovarian and tube-ovarian pregnancies among the heterotopic pregnancies that progressed to term. The isthimical and ampullar portions of the tube have been known to be the most frequent site of implantations in early ectopic pregnancies, when occurring in the fallopian tube. In the

ectopic pregnancy, simultaneously occurring with an intra-utuerine pregnancy, several stages of development may occur such as maceration, abscess formation, mummification, and lethopedion formation. A large number of intra-uterine pregnancies have progressed to term following surgical removal of their extra-uterine twin. If heterotopic pregnancy is diagnosed in the early months of gestation, the possibility of massive intra-abdominal hemorrhage is too great a hazard to permit the condition to continue and surgery should be done immediately.

The diagnosis of tubal pregnancy in the presence of an intra-uterine pregnancy is understandably difficult. Vaginal bleeding is likely to lead to suspision of threatened abortion. Some cases which will show no spotting are even more confusing. In the case being presented none of the signs or symptoms of ectopic pregnancy were present. Studdiford and Speck noted that the most favorable outcome resulted when the ectopic pregnancy undergoes rupture without disturbing the uterine gestation. In such cases, the ectopic pregnancy manifests itself first; is recognized, and is promptly brought to surgery. Most often, the ectopic pregnancy ruptures first and is followed by spontaneous abortion or miscarriage. However, as in the case being presented, after the ectopic pregnancy is operated, the intra-uterine pregnancy may continue to term. It appears that the group of cases which has yielded the greatest mortality is marked by a preliminary abortion, delivery, or discovery of a uterine pregnancy followed by the rupture of the ectopic pregnancy. The mortality following this sequence of events has been high and in the neighborhood of 20% according to Henry H. Faxon.

This case report covers a ruptured ectopic pregnancy with survival of the intra-uterine fetus and subsequent normal delivery.

CHIEF COMPLAINT . . . "Pain in the right lower abdomen."

Caucasian female was awakened at approximately 5:30 a.m., January 12, 1959, with generalized abdominal cramping and right lumbar backache. Since the onset she has been nauseated, but has not vomited. A few hours later the pains became more severe and localized in the right lower quadrant, with the backache persisting. Patient was seen in the office in the early afternoon and stated that since the onset of the abdominal pain she had been unable to eat. The bowel movements have been once daily, however, today she had three soft bowel movements. There had been no dysuria, hematuria, or frequency. There had been some nocturia for the past week. The patient stated that she had just recovered from an upper respiratory infection and had a slight cough. She was more comfortable with the right lower extremity semi-flexed and stated that there was a slight cramping in the muscles on the medial aspect of the leg. Her last menstrual period was November 30, 1958, following a premature delivery in September 1958. There has been one menstrual period since the delivery and the flow was somewhat scant. She has had no symptoms of pregnancy.

PAST HISTORY . . . Gravida V para IV. The last pregnancy ended in premature labor with delivery of a viable infant weighing 2 lbs. 7 oz., which expired approximately three hours following delivery. The previous three pregnancies were all spontaneous deliveries, however, the first two in 1954 and 1955 were also premature infants weighing 4 lbs. 11 oz. and 3 lbs. 7 oz. These infants survived. There have been the usual childhood diseases, measles, mumps, and chicken pox. There have been no serious illnesses, injuries, or operations.

PHYSICAL EXAMINATION . . . Temperature 99 degrees; weight 113; pulse 82; blood pressure 114/74. She appeared to be in moderate distress, lying on the examining table with the right lower extremity semi-flexed. Eyes, ears, nose, and throat were essentially negative. The cervical nodes were not enlarged. The neck was supple, thyroid gland not palpable, no venous distention, no limitation of motion. The chest was symmetrical, expansion equal bilaterally. The breasts were not engorged, no tenderness or palpable masses. The lungs were clear to auscultation and percussion. Heart, normal sinus rhythm, no murmurs were present. The abdomen was soft. The liver, kidney, and spleen were not palpable. There was a grade II tenderness in the right lower quadrant over the area of the

cecum. There was no rebound tenderness. There was no costal vertebral angle tenderness. Pelvic examination revealed the cervix to be large, soft, and bluish. The uterus was retroverted and enlarged to about the size of a six weeks pregnancy. On bi-manual examination tenderness was present in the right lower quadrant and there appeared to be an increased tenderness over the right broad ligament, although there was no palpable mass. Extremities, no deformities, limitation of motion. Reflexes were physiologically active and equal bilaterally.

DISCUSSION . . . Urinalysis revealed the specific gravity to be 1.024, reaction 6.0. The specimen was negative for albumen and sugar. The microscopic was negative. The white blood count was 11,700. A diagnosis of acute appendicitis was considered to be the etiology of the abdominal pain and that a uterine pregnancy also existed. She was admitted to the hospital for observation and approximately three hours later a repeat white count was performed and found to be 13,900. Physical examination revealed an increased tenderness in the right lower quadrant with slight rebound tenderness. The blood pressure was 112/76; pulse 80. Because of the increasing white count and increased tendercreasing white count and tenderness, surgery was scheduled. Approximately one hour before surgery the patient began having a slight amount of bright red vaginal bleeding. At surgery a McBurney type incision was made in the right lower quadrant and upon exposing the peritoneum a bluish discoloration was noted beneath the peritoneum. Upon opening the peritoneum a moderate amount of bright red blood was immediately encountered with a moderate amount of blood present in the pelvis. This was removed by suction and an enlargement of the right fallopian tube was noted in the distal portion measuring approximately 3 cm. in diameter and approximately 5½ cm. in length. In the right fimbriated portion of the fallopian tube a fresh blood clot was noted, however, there was no active bleeding at the time of surgery. Examination of the appendix showed no active inflammatory process. A right salpingectomy was performed and the removed specimen was sent to the pathologist for examination. An incidental appendectomy was then performed in the usual manner and a routine closure of the abdomen performed. The pathological report showed placenta tissue to be present within the lumen of the fallopian tube with an obvious rent in the serosa.

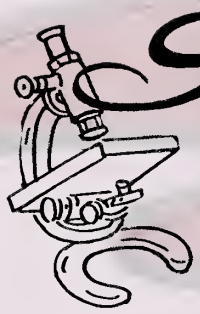
The postoperative course was uneventful and the patient was discharged from the hospital on the sixth postoperative day. On Janpary 30th patient was examined in the office and the incision was found to be healing satisfactorily. The appetite was good, the bowel movements were normal. At the time the uterus was two times enlarged and the patient stated that she had not had any discharge or bleeding from the vagina. (The vaginal bleeding had stopped on the first postoperative day). She was in the office on February the 18th and at that time the uterus was found to be enlarged to about the size of a three months pregnancy. A friedman test was performed and found to be positive. She was then started on routine prenatal care and because of the previous premature deliveries she was placed on Norlutin. The prenatal course was uneventful and on March 30th a flat plate of the abdomen showed a fetus at approximately the 22nd week of gestation. The patient continued to do well and on July 31st 1959, delivered a viable 5 lb. 4 oz. male infant. The postparum course was uneventful and patient and infant were discharged on the fourth hospital day.

SUMMARY . . . 1) A case is presented in which a coexisting intra-uterine fetus, with subsequent normal delivery, survived following surgery for a ruptured ectopic pregnancy. 2) The dignosis of tubal pregnancy in the presence of an intra-uterine pregnancy can be difficult, and without the usual signs and symptoms may resemble an acute appendicitis. 3) Probably the total number of coexisting extra-uterine and intra-uterine pregnancies that have occurred are much larger than the 435 cases reported by Vasicke and Grable as it is doubtful if every single case is reported.

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2. Simpson, F. F.: A Consideration of Combined Ectopic and Intra-Uterine Pregnany With Report of Case. Am. J. Obst. 49:333, 1904.

(Continued on Page 254)



Scientific PAPER

CONTROL OF STAPHYLOCOCCAL INFECTIONS IN NEWBORN NURSERIES

Case Report

N. R. Whitney, M.D.
Rapid City, S. D.

Presented at the Annual Meeting of the South Dakota State Medical Association in Rapid City, June, 1959.

A premature baby who had been in the newborn nursery for several days was found to have many superficial lesions of the skin, cultures from which revealed coagulase positive **Staphylococcus aureus.** Within the next few days several more recently discharged newborns returned with similar skin lesions, all of which proved on culture to be Staphylococcal. Two babies showed more serious manifestations. One returned approximately a week after discharge from the nursery with a sub-mandibular abscess. Culture of the drainage showed coagulase-positive Staphylococci. This baby made an uneventful recovery and has done well ever since. The most severe case was a seven-day-old baby who was readmitted to the hospital with a marked erythema of the lower back associated with signs of generalized illness. We were unable to make a bacteriological diagnosis during the patient's hospital stay. Her condition became gradually worse until she died three days after admission. Autopsy showed Staphylococcic cellutitis and pneumonia. An epidemic was definitely present, apparently with transmission from one patient to the other. Phage trying was done on each culture, and all infections proved due to Type 80/81.

Emergency control procedures were clearly necessary, and the following procedure was adopted. The newborn nursery was closed to new admissions, and another room was designated as the substitute nursery. Thereafter, every newborn was placed in this room. Meanwhile the babies in the regular nursery were discharged as quickly as was practical. As soon as the main nursery was empty it was scrubbed thoroughly with Staphene and was then repainted. Following a four-day period of vacancy, new babies were again admitted to the nursery, but the babies in the substitute nursery were treated separately until their discharge. Concurrently, nose and throat cultures were taken of all the staff members who regularly enter the nursery. In about 30% of them, coagulase-positive Staphlococci were found, but none were phage type 80/81.

Subsequently we have had no further trouble, and our precautions are that every physician wears a gown and mask while examining babies, after first washing his hands with pHisohex. Unless absolutely necessary, no physician goes into the actual bassinet rooms but examines and treats all babies in the service room of the nursery. Nurses also wear gowns and wash their hands before handling each baby. No further preventive measures have been necessary. However, bacteriological cultures are frequently taken in various areas of the nursery setup to determine the effectiveness of disinfecting techniques.

DISCUSSION

That this is not an isolated occurrence is emphasized by many reports in the current medical literature. The importance of the problem is accentuated by the appearance of a monograph on the subject in Volume 10 of **Advances in Pediatrics.**[1] In addition, antibiotic promotion in recent years has concentrated on the staphylococci, almost to the exclusion of other organisms.

In this discussion four aspects of the problem will be considered:

1. Pathogenicity of **Staphylococcus aureus.**
2. Newborn resistance to infections.
3. Medical management to reinforce the infant's resistance.
4. Steps to minimize person-to-person transmission.

Staphylococcus aureus is a wide-spread organism, living naturally in the anterior portion of the nose of the human carrier. In most cases it is merely a symbiont, like many other bacteria, and causes no difficulty; however, certain strains have a greater virulence and may cause infections. Classification of this organism has, in the past, been primarily on color, but pathogenicity correlates much more closely with the presence or absence of coagulase.[1] Coagulase-positive strains are the most virulent. Various kinds of hemolysins are present in different strains of Staphylococcus[1] but these are not closely related to the pathogenicity. Various strains may also differ in their resistance to antibiotics, and may be classified in this way. The most precise method of classification, however, is bacteriophage typing, by which a number of different strains have been found among the staphylococci of the world. The most virulent strain is known as 80/81.

Newborn infants show some resistance to Staphylococcal infection, although whether they receive transplacental maternal antibodies is uncertain. They certainly have not had time to develop any of their own by exposure.[2] Even the most dangerous strains are most commonly limited to superficial skin lesions. Furunculosis is a common problem, and in the newborn babies the furuncles are usually a very small size and do not ordinarily show evidence of interfering with the baby's general good health. They may be located on any part of the body and must be differentiated from miliaria and epithelial pearls. The newborn cannot limit Staphylococci as easily as can the older patient, and severe infection may also occur. Deep infections due to Staphylococcus may occur in many parts of the body. Cellulitis and abscess formation may occur following pyodermia in newborns, although both are more frequently seen in older individuals. Staphylococcic pneumonia is seen regularly, and frequently with the additional complication of empyema. Families where normal hygiene is poor very frequently may show Staphylococcic empyema as a complication of either furunculosis of the chest wall or Stephylococcal pneumonia. Staphylococcal pericarditis has been described,[3] although this is definitely one of the rarer manifestations in infants. The treatment of all manifestations is the same, consisting of isolation of the organism, determination of the sensitivity, and

then strong and vigorous treatment with the antibiotics which are most indicated.

The list of antibiotics used in treating Staphylococcal infections reads very much like a history of antibiotic medicine in general. The development of new antibiotics from time to time has been necessary because Staphylococci seem to have a strong tendency to develop resistance, or at least resistant strains tend to arise apparently by genetic mutations, while the susceptible strains are being destroyed. Fifteen years ago, when penicillin was first introduced, William Altemeier of Cincinnati had tremendous success in treating Staphylococcic osteomyelitis with penicillin.[4, 5] Also, in this connection, Alexander Fleming discovered penicillin because a spore of **Penicillium notatum** contaminated the culture plate on which Staphylococcus was growing and the inhibitory effects of the secretion were noted in the bacteria. In recent years, however, most Staphylococcic infections have proved to be resistant to penicillin. Streptomycin and the various sulfa drugs also seem to be ineffective in most of the infections reported in recent years.

Fortunately, however, the discovery of new antibiotics has gone forward almost as rapidly as resistance to the old ones has developed. An outstanding example is erythromycin, which was developed about five years ago and was originally marketed as a specific drug for Staphylococcic infections. Currently, some strains of Staphylococcus seem to be sensitive to erythromycin, while others are highly resistant to it and sensitivity studies must be run on each infection. However, because of its rather narrow spectrum of activity and because it is of relatively low toxicity, erythromycin is considered by many authorities to be the drug of choice to be used until sensitivity studies are available. One recent review of the subject recommends erythromycin for all hospital Staphylococcic epidemics, pending further studies of the sensitivity.[1]

Chloramphenicol has been available for the past eight years. It was originally promoted as a broad-spectrum antibiotic, which it is, and was brought out as a competitive drug to the tetracycline derivatives. However, it had not been out long before several cases of fatal aplastic anemia, presumably attributable to chloramphenicol, were reported, and, for this reason, the drug became relegated to infections which were resistant to all the safer antibiotics. At the present time, while penicillin, streptomycin and the tetracycline group have become relatively ineffective in the treatment of Staphylococcic infections, chloramphenicol is still useful in most cases. Two other useful oral antibiotics for Staphylococcal infections are triacetyloleandomycin and novobiocin.

In the past year or two, since the problem of Staphylococcic infections has become extremely acute, three drugs have been placed on the market which are considered to be specific for resistant Staphylococcal infections. These are kanamycin, ristocetin, and vancomycin. All three have the advantage that they cannot be given orally because of poor absorption and therefore they are not likely to be prescribed for mild illnesses. This, alone, will help to prevent the emergence of resistant trains of Staphylococcus. They all have various disadvantages of toxicity, however, which place them in the category of drugs to be used only upon clear indication. Kanamycin is related in its toxic effects to the streptomycin group and can produce severe eighth nerve damage.[6, 7] It also is administered intramuscularly and very often causes pain at the site of the injection. Ristocetin must be given intravenously, and while it is of great effect against most Staphylococcic strains against which it has been used, it is also potentially toxic to the hematopoietic system. Leukopenia and thrombocytopenia have occurred in several patients on ristocetin.[8] Vancomycin also must be given intravenously and while it is less toxic than ristocetin, it has been known to produce very painful and disabling venous thrombosis.[9]

Parallel with the development of new antibiotics, new antiseptic solutions have been compounded to fight Staphylococci more effectively. The one which we are now using in our hospitals is Staphene, which is a nonspecific detergent germicide; chemically it is a compound of several cresols similar to Lysol but more highly effective. Utilized as disinfectant solutions, these antiseptics are very helpful in reducing the problem of Staphylococcal infections. Staphylococci spread quickly from an infected patient and can soon be found throughout the nursery.

(Continued on Page 254)



Coronary Artery Disease Etiology: Current Theories and Facts

Edwin H. Shaw, Jr., Ph.D.
Department of Biochemistry
State University of South Dakota
School of Medicine
Vermillion, South Dakota

Presented at the Sioux Valley Medical Meeting, February 23, 1960.

In considering the etiology of a degenerative disease, it is desirable to consider the interplay of genetic susceptibility factors with concurrent environmental factors, realizing that the environmental factors alone may be sufficient to bring about the disease in the absence of proven hereditary defect. In familial hypercholesterolemic xanthomatosis[1, 2] it has been shown that the hypercholesterolemia is inherited as a simple Mendelian dominant trait with 50% incidence in offspring, with xanthomas and heart disease developing with age in those individuals particularly who are homozygous for the defect. Xanthomas are improved by low fat diet and estrogen,[3] with concomittant lowering of serum cholesterol and other lipids. Serum cholesterol is also lowered by thyroxin,[4] and in experimental work on adrenalectomized dogs by desoxycorticosterone acetate.[5] Serum cholesterol is elevated by cortisone,[5] methyltestosterone[6] and in the insulin deficiency of diabetes mellitus. The correlation of elevated lipid with coronary heart disease in familial hypercholesterolemic xanthomatosis leads to a general consideration of the relation of disturbed lipid metabolism, as measured by hypercholesterolemia, to the etiology of coronary heart disease.

The extensive statistical survey by Ancel Keys[7] and his co-workers called attention to the high serum cholesterol levels in the United States and Northern Europe as compared to other parts of the world. This hypercholesterolemia is correlated with high fat diet and with high incidence of coronary heart disease. In the environment of Cape Town, Africa, differences in serum cholesterol in several ethnic groups were directly relatable to differences of fat in the diet. Within a single racial group, Japanese,[8] considered at various economic levels in Japan and in Hawaii and California, serum cholesterol and severe atherosclerosis were closely correlated with dietary fat intake. In spite of this dependence of atherosclerosis on hyperlipemia, Keys[9] finds no correlation between coronary heart disease and "obesity" as measured in terms of deviation from the U. S. Standard Weight. Hyperlipemia may be one of the factors in the occurrence of coronary heart disease in the later decades of life and in its greater frequency with men rather than women, since serum lipids increase with age and are higher in men than in premenopausal women. Lawry[10] presents statistical evidence confirming this, but in their opinion, the small size of the difference between serum lipids of well patients and those with angina pectoris or myocardial infarction prevents efficient application of serum cholesterol or lipoprotein levels by themselves to the clinical prediction of coronary heart disease in any particular case.

Statistical evidence of elevation of serum cholesterol on the high fat diets that appear to be correlated with coronary heart disease, has led to investigation of the alteration of diet as a means of controlling serum cholesterol. Ahrens[11] has summarized the effect of dietary factors. Serum cholesterol is lowered by subcaloric diet, polyunsaturated fats, low protein diet and administration of beta-sitosterol. It is raised by starvation (lipid mobilization), weight gain, and saturated fats. Dietary cholesterol has no effect on serum cholesterol in man, but does produce an elevation in rabbits and chicks, with development of atheroma.

In a recent experiment[12] O'Neal and coworkers have produced spontaneous arterial thrombi and renal and cardiac infarcts in rats on diets containing 40% animal fat, 0.3% thiouracil, 5% cholesterol and 2% sodium cholate. Arterial walls were infiltrated by fine lipid droplets, and fibrin thrombi in various stages of organization showed large amounts of stainable fat. These results have led to weight reduction and to the use of such medicinal dietary ingredients as safflower oil and beta-sitosterol for the prevention or treatment of coronary heart disease, but statistical evidence of their efficiency is not yet available. In view of the reabsorption of xanthomas[3] on low fat diets, there is the possibility of some resorption of atheromas. Potential evidence in this direction is given by the experiment of Waters[13] on dogs with cholesterol levels of 250-350 mg% produced by high fat, high cholesterol diet, whose coronary arteries were injured by allylamine, who then developed fatty, foam-cellular intimal granulomas. Dogs without elevated serum cholesterol, 65-125 mg%, showed only transient deposition of lipid at the injured sites.

Considering autopsy results from various sources, Keys[14] has listed the findings as:

No major thrombotic or sclerotic occlusion	13.6%
Sclerotic occlusion alone	38.8%
Thrombotic occlusion alone	23.3%
Sclerotic and thrombotic occlusions	25.3%

With thrombotic factors involved in half of the autopsy findings, it is interesting to note that the diets high in saturated fats lower the rate of fibrinolysis and increase the rate of coagulation.[11] Oliver and Boyd[6] have diagrammed a sequence which they believe to be a major factor in the increase of coronary heart disease in the twentieth century, approaching 20% of all deaths. The higher standard of living with less physical activity leads to excessive caloric intake with more of the animal fats and an elevation of the plasma lipids. At the same time, "stress" aggravates the situation by increasing plasma cholesterol through the action of adrenal hormones, coupled with changes in the arterial wall due to age, blood pressure or other factors. The net result is atherosclerosis, aggravated by increased coagulation and decreased fibrinolysis leading to eventual infarction. Support for the significance of the role of "stress" comes from the recent work of Sherber and Marcus,[15] who carried out a series of blood

analyses on acutely ill patients immediately after hospital admission. They found values of free fatty acid 100% above normal and easily extractable cholesterol three to four times the normal value. Upon recovery, "stress" being over, these values returned to normal. Total cholesterol was normal during and after "stress." A similar result was obtained by Rosenman and Friedman,[16] using the "stress" of work deadlines in accountants, with the result of 63 mg% increase in cholesterol and 50% decrease in clotting time during the stress periods.

Etiology of coronary artery disease, in common with most degenerative diseases, is not simple. Major factors include dietary high in animal fats, increased coagulability of blood, decreased fibrinolysis, lowered fat clearing factor, arterial injury, hypertension, endocrine imbalance, and stress, all of which may act by increasing the penetration of a latent genetic factor.

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ARTHUR F. GROVE, M.D.
1884—1960

Dr. Arthur F. Grove died suddenly Friday evening, April 1, of a heart attack at the wheel of his car, after visiting his wife at the Dell Rapids Community Hospital. He had served Dell Rapids and the surrounding community as physician and surgeon for forty years up to the time of his recent retirement.

He was born at Plainview, Minnesota, in July of 1884. He attended the University of Minnesota and received medical training and his degree at the University of Illinois. Dr. Grove was a medical officer in World War I, going to both France and Germany. He is survived by his widow, whom he married in 1916; his sons, Thomas and Allan; and three grandchildren.



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LEUKEMIA
II. PRESENT CONCEPTS OF THERAPY

Sloan J. Wilson, M.D.
Kansas City, Kansas

Presented before the South Dakota Society of Internal Medicine, School of Medicine, Vermillion, South Dakota, October 2, 1959; sponsored by the South Dakota Division of the American Cancer Society.

Associate Professor of Medicine and Head of the Section of Hematology, Department of Medicine, University of Kansas School of Medicine, Kansas City, Kansas.

The therapy of all types of leukemia leaves much to be desired. Be this as it may, it is possible to reverse the trend of events and control the disease for varying periods of time. It is hoped that future years will bring more satisfactory methods of treatment and that these patients will enjoy a full, useful life.

One is confronted with two distinct methods for presentation of therapeutic measures: 1) Discussion of various agents; and 2) discussion of the preferred methods of treatment in various types of leukemia. The latter method has been chosen, because it is more useful to the internist. A patient is observed, a diagnosis is made, and then the internist is confronted with the problem of treatment.

There is a wide choice of methods of treatment, and the physician should be familiar with the indications for their administration.

Acute Leukemia

The most frequent remissions in acute leukemia are observed in "childhood leukemia." This also includes the young adult. Remissions in the older age group are infrequent.

Immediate emergency measures may be necessary. These include blood transfusions, ACTH and the corticosteroids. ACTH and corticosteroids may produce remissions, but they usually are of short duration.

The antivitamins and antimetabolites are the most useful and most likely to produce a sustained remission. All of the folic acid antagonists are identical in their action. All degrees of remissions occur, including changes in signs and symptoms, and in the blood and bone marrow. The primary action of folic acid is in nucleic acid synthesis, which is prevented by the antagonists. Leukemic cells contain much more folic acid than normal cells, and actual displacement of folic acid by the antagonist has been demonstrated. Thus, the abnormal cells die because of the lack of synthesis of nucleic acid. With the passing of time there unfortunately develops a resistance to the antagonist.

There are probably several pathways for a cell to produce nucleic acid. The purine antagonist available is 6-mercaptopurine (6-MP, Purinethol), which pervents the biosyntheisis of nucleic acid. Fewer remissions are induced than with the folic acid antagonists. More favorable results may be produced in adults. It may be helpful in producing additional remissions when the disease becomes refractory to aminopterin. It is said to be of greater value in acute granulocytic leukemia than the folic acid antagonists.

Experimental data is still being obtained on other vitamin antagonists and amino acid analogs such as azarine. Their exact place in treatment is not entirely clear. Perhaps the study of an individual patient would be pertinent. In Figure 1, the use of several therapeutic agents is well illustrated. Excellent articles have appeared in recent literature.[1, 2, 3, 4, 5]

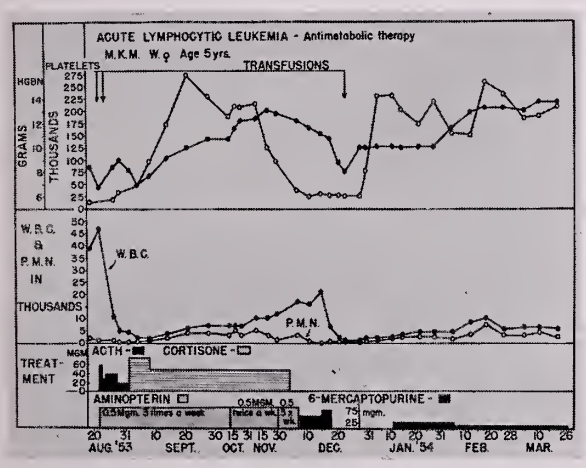


FIGURE 1.

Graphic data in acute leukemia. Cortisone and aminopterin produced an excellent remission. The disease recurred and responded well to 6-MP. The patient lived about two and one-half years after the initial diagnosis was made.

It is to be noticed that the term acute leukemia is used rather frequently. Absolute diagnosis as to cell type is most difficult, and may change with therapy. Also, as the patients live longer, we are observing rather bizarre complications. After therapy with the antivitamins, purine antagonists and corticosteroids, children may tolerate X-ray therapy very well indeed. It is most useful for bone pain and neurologic involvement.

Chronic Granulocytic Leukemia

The treatment of this disease in its initial stages is most satisfactory. The spleen will return to normal size, the anemia will correct itself, the entire hematopoietic system will become essentially normal and the patient will be completely rehabilitated. It is most difficult to evaluate newer methods of treatment, because complete remissions may be produced with many agents: X-Irradiation, p^{32}, myleran and 6-MP. In our hands, 6-MP has been entirely too difficult to control in the chronic stage. Its use has been reserved for the difficult terminal blast stage.

In the past few years, the use of the alkylating agents myleran has replaced all other types of therapy in many clinics. It is given orally in tablet form, the initial dose being 6.0 to 12.0 mg. daily, the dose being changed as the patient responds. Intermittent or maintenance therapy may be adopted. These patients are normal and rehabilitated during remissions.

Figures 2 and 3 illustrate the treatment of two patients. In Figure 2, the response to myleran is excellent. Figure 3 is most interesting to study since it depicts the complete store of the patient and his disease from diagnosis to death. It illustrates the use of X-irradiation, P^{32}, myleran and 6-MP, and cortisone in the terminal stage. The following articles may be of interest to those desiring more complete data on the subject.[3, 6, 7]

Chronic Lymphatic Leukemia

A popular fallacy seems to exist that chronic lymphatic leukema is a rather benign disease. About one-fourth of these patients die each year. There are probably several groups or types of the disease. The most dire

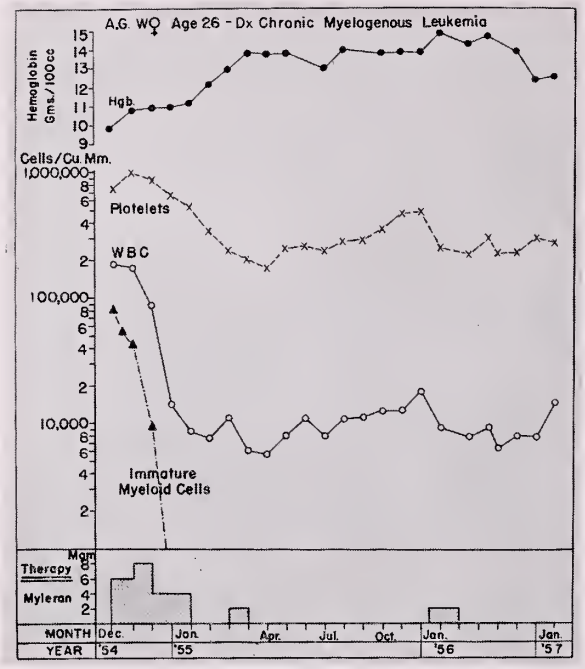


FIGURE 2.

The hematological response of a patient with chronic granulocytic leukemia. Only myleran was used and the clinical and hematological response was excellent. Intermittent therapy was given.

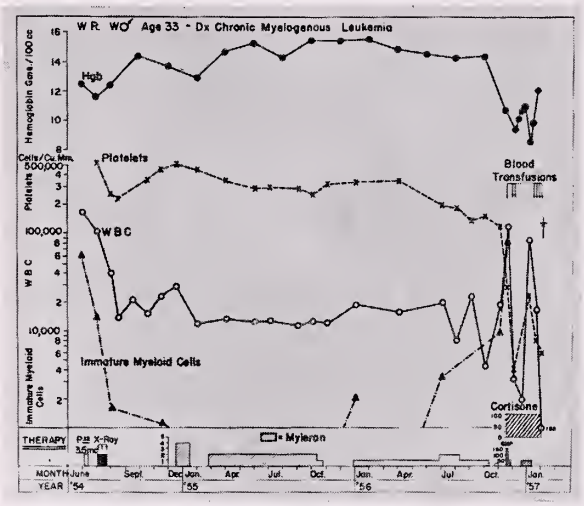


FIGURE 3.

An illustrative graph of the complete life cycle of a disease in a patient with chronic granulocytic leukemia. A remission was first obtained with P32, and X-irradiation. When the disease "broke through" it was controlled with myleran. The typical blast cell reaction occurred and was treated with little success. The patient expired.

is the group that expires in the first one and one-half years after diagnosis. Those remaining, when their longevity is placed on a graph, expire at intervals that produce a long sloping line. Certainly, one occasionally sees a patient in whom the leukemia seems to have no effect on longevity. In most instances, treatment is quite satisfactory. Many complications appear, such as auto-immune hemolytic anemia and infectious diseases.

Several methods of therapy are used, including X-irradiation, P^{32}, triethylene melamine (TEM) and leukeran (CB 1348, chlorambucil). P^{32} is not the best form of therapy, but Osgood has stressed persistent small calculated doses with excellent results. X-Irradiation is best used in patients with extremely large masses of lymph nodes.

The two chemotherapeutic agents that have proven most worthwhile are TEM and leukeran. Both are alkylating agents and nitrogen mustard derivatives. TEM must be used with caution. Figure 4 illustrates the effect

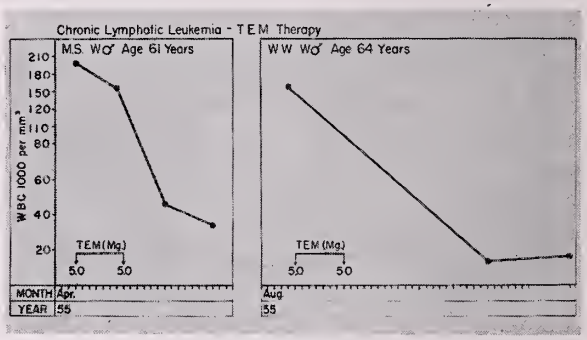


FIGURE 4.

The response of chronic lymphocytic leukemia to triethylene malamine (TEM). Results of therapy may be excellent but caution is necessary in controlling therapy. However, at times, the best therapeutic results are eventually observed in patients who have been possibly "overtreated."

of a total dose of 10 mg. (2 tablets only) in two patients. In our clinic, 2.5 to 5.0 mg. is given each week. The dose is decreased as the desired clinical and hematological effects are obtained. A maintenance dose of 1.25 mg. per week may suffice. The response of a patient given leukeran is illustrated in Figure 5. The patient is still in excellent condition. The initial daily dose is 8 to 12 mg., and the dose is adjusted as the clinical and hematological response is observed.

The complication of auto-immune hemolytic anemia is illustrated in Figure 6. An excellent response was obtained in this elderly patient with one dose of P^{32} and continuous cortisone. She expired one year later in an uncontrollable exacerbation of the hemolytic disease.

The incidence of infections in chronic lym-

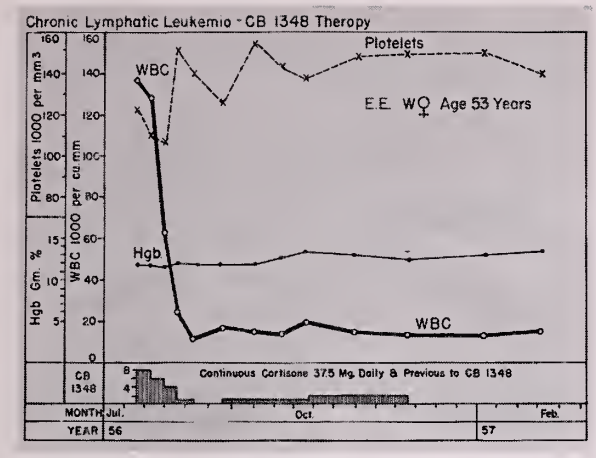


FIGURE 5.

The treatment of chronic lymphocytic leukemia with leukeran (CB 1348, chlorambucil). Response has been excellent, not only during the time covered by the graph but to the present.

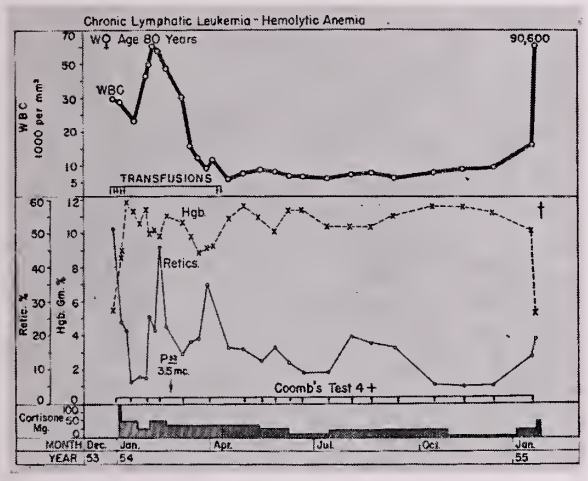


FIGURE 6.

This graph illustrates a complication of chronic lymphoytic leukemia, auto-immune hemolytic anemia. An excellent response was observed for one year, at which time an acute hemolytic crisis developed with collapse and death.

phocytic disease is increased. In our series, 68 per cent had a decrease in gramma globulin.[10] This does not occur in other types of leukemia. Thus, the control of infectious diseases is a most difficult problem. In addition to supportive measures and antibiotics, it is well to give gamma globulin.

For a more complete discussion of the treatment of chronic lymphocytic leukemia, the following articles may be of help.[3, 8, 9]

The Future of Therapy

I firmly believe that the etiology of leukemia, when known, will influence therapy considerably. This may not be too far in the future. In the meantime, it becomes the task of many research groups to screen and evaluate many forms of therapy.

A few years ago, it became apparent to several investigators that more progress could be made by cooperative effort. The group to which our own Hematology Section is a member is illustrative of such a program. Under the auspices of the National Institutes of Health, the Southeastern Cancer Chemotherapy Cooperative Study Group was formed, including representative members from the University of Mississippi, Medical College of Alabama, University of North Carolina, Medical College of Virginia, University of Miami, Washington University, Duke University, Emory University and the University of Kansas. This group is now in its third year of operation. At the present time, eight projects have been completed or are under way. In addition, several new and promising agents have been screened. Thus, we are entering a very exciting and promising phase of therapy.

SUMMARY

The therapy of the most common types of leukemia has been reviewed. Therapeutic measures will change considerably as time passes. Many new agents are being screened and evaluated by cooperative group effort. Considerable progress has been made but there is still much to be desired. Therapy will undoubtedly be more exact and specific when more is known about the etiological factors involved.

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(Continued on Page 254)



EXAMINATION OF THE ORAL CAVITY

Dean D. Gaffney, D.D.S., M.S.
Sioux Falls, South Dakota

Paper presented at the annual Clinic Day, McKennan Hospital, Sioux Falls, South Dakota. November 19, 1959.

Dentistry, as we know it today, has made great progress in the past one hundred years. The period of one hundred years was selected because this particular year marks the century year for organized dentistry under the auspicies of the American Dental Association. The years following World War II have been extremely fruitful for the institution of many excellent graduate programs. These programs have stressed the theoretical study of dental diseases and brought this aspect into a more proper balance with the all important mechanical training that had dominated the program.

Since the dentist is suppose to be the guardian of the oral cavity it should then be his responsibility to recognize systemic as well as local diseases. If systemic diseases are suspected, the patient can then be guided to the proper source of treatment. If the dentist is supervising the oral cavity, what then is the role of the physician? The physician should not be led into a feeling of false security. This is true because many times the dentist will become too concerned with the condition of the teeth **per se** and then overlook the remaining part of the oral examination. The busy physician may examine the mouth in a superficial manner because he feels the

dentist has already carried out a thorough examination. Therefore it should be stressed that regardless of which profession does the oral examination, adequate time should be used to view specific structures.

If in the oral examination swellings or protrusions are palpated, the teeth and osseous support should be x-rayed by the dentist. In this manner, the dental structures can be quickly eliminated or pinpointed as being the source of the difficulty. This again is very important because sometimes an infected tooth can be removed in the dental office, antibiotics instituted and a quick recovery established. If this same patient is hospitalized, dental radiographs become difficult to obtain and precious days elapse before the true cause of the infectous process is known. Occasionally an edentulous patient will seek the physician's help because of facial swelling. Since the teeth are no longer present, the urge to quickly dismiss dental causes may arise. This however would be an error because retained roots, embedded teeth or supernumerary dental structures often produce latent infections.

Certain non-pathologic bony growths occur in the mouth and cause concern to the patient. These growths are merely exostosis and occur primarily on the roof of the mouth and on the lingual aspect of the mandible in the premolar area. They are harmless and removal is indicated only in the event an artificial prosthesis is needed.

A variety of systemic diseases will demonstrate oral manifestations and these diseases include most childhood ailments, blood dyscrasias, metabolic diseases, endocrine dysfunctions, granulomatous lesions, dermal disturbances, and skeletal developmental disorders. In addition to these, malignancies from other areas of the body produce oral metastatic destruction. So, in effect, the physician who devotes a proper amount of time to the examination of the oral tissues is not wasting time or simply reviewing the dentists' area. A great deal can be learned about the patient because the oral tissues show a quick response to body changes. The osseous structures likewise change markedly and there is no better way to locate these changes than with properly exposed and properly interpreted dental roentgenograms. This is true because the film is small and can be placed in close apposition to the bone thereby rendering clear, unobstructed roentgenograms for interpretation. The detail of this bone is excellently reproduced. Also there are structures which are peculiar to the teeth and which change very readily to certain systemic disturbances. Two of these structures which are visible only in the dental radiograph are the lamina dura and the periodontal membrane. The lamina dura is a continuation of the cortical bone as it surrounds the roots of the teeth. The periodontal membrane is responsible for attachment of the tooth to the bone and occupies the space between the tooth root and the lamina dura. Certain diseases will cause the disappearance of the lamina dura due to demineralization, such as that seen in hyperparathyroidism or nontropical sprue. Scleroderma, on the other hand, will in many instances cause a marked thickening of the periodontal membrane. Multiple myeloma will cause an osteoporosis, which although not specific, does make the examiner suspicious. Reticuloendotheliosis will have dramatic and diagnostic osseous changes. Paget's disease of bone occurs primarily in the maxilla with definite outstanding features. Fibrous dysplasia has a marked predilection for facial bones. These are but a few examples.

In large medical centers, the oral surgery departments, staffed by well trained men, are being asked more and more each day to examine patients in consultation. This fact alone supports the opening statement of this paper that dentistry and oral surgery are making tremendous progress. The mechanical aspect, still an important role, has had to surrender much of its domination to the theoretical side of dental problems.

In summary it can be said that the role of the dentist and the oral surgeon can be important to the health team. Adequate examination by the dentist can disclose abnormal findings. This patient can then be referred to the family physician in a diplomatic and unalarming manner for further investigation. The physician, in requesting a dental consultation, can better serve a patient. The most important person to benefit is the patient. The physician and the dentist benefit also by becoming more proficient in their respective professions.

PRESIDENT'S PAGE



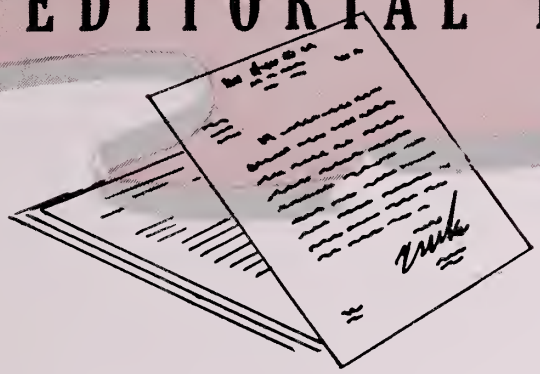
The readers of the Journal and your President can breath a sigh of relief for this is the last letter I will have to write and it is the last letter of mine that you will have to read.

My year as your President has been very satisfactory, thanks to the help that you have all given me. For this help I wish to express my sincere thanks.

The most difficult task of the year has been the participation in the various activities of the problems of the aging and the Forand Bill. It would of course be easy to shift the cost of Medical and Housing care of the aged to the Federal Government but the Federal Government would merely collect more tax money locally and add on to your federal tax burden. It would cost even more in the end, for pressure, for economy is higher locally than nationally.

R. A. Buchanan, M.D.
President

EDITORIAL PAGE



THE PROFESSIONAL CARD

The pleasure derived from seeing one's name in print, except in connection with unsavory incidents, is a form of juvenile exhibitionism from which few persons ever really mature. Couple this with the eye attracting advertising value of "not hiding a light under a bushel', and it may well lead members of the Profession into practices that "since the memory of man runneth not to the contrary" have been frowned upon by ethical Medical concepts.

There are some people who attract news stories as garbage attracts flies, and, although this may be through no fault of their own, it might well be considered "poor form" to encourage or abet the ready pencils of news hawks and reporters. On analysis of the reasons behind these frequent appearances of some Doctor's names in news papers is the knowledge and hope that the fact of their names being brought before the public eye will attract patients to their care. So avid have been some Physicians whom I have known, to have their names in the news, that they have actually encouraged and welcomed court actions as legal, even tho quasi-ethical advertising.

It is not of this tongue-in-cheek straining of good form and ethics that I shall treat in this discussion. This is a consideration of paid advertizing in whatever guise it may appear, be it newspaper, magazine, school annual, telephone book or handbill, employed, regardless of the excuses given, for the purpose of attracting patients. In the opinion of most Doctors and certainly of the A.M.A., the only truly ethical advertizing that should be employed is in the services we render to the sick and injured upon who we are called to treat, and in the services we contribute to our community and its various social, educational, fraternal and religious organizations.

What possible REASONABLE excuse can be offered, **except** to attract new patients, for a perennial space in a news paper, announcing in issue after issue, year after year, that Dr. Joseph Blow, M.D. is a Physician and Surgeon, specializing in some or all diseases of men, women, and children; that his office is located at so—and—so on or near Main Street or where-ever; that his telephone number is O-blah-O; that he fits glasses or trusses, delivers babies, uses the latest electronic machines, has an efficient clinic, operates a good hospital, or any combination of these facilities and skills, that should be as common to our profession as having balogna and hamburger is to a butcher shop! No indeed; the only possible reason that can honestly be given is to attract patients into the Doctor's "store" so that a sale of medical service can be made.

But the A.M.A. says that anything a Doctor does by means of printer's ink for the purpose of attracting new patients, is unethical advertizing; and we must remember that the A.M.A. is the directing head of organized Medicine and that even though heads may, at

times, deviate from good reasoning, the long time end result is found, eventually, to be right and proper. Common sense always prevails.

What reasons might be given for using a simple professional card in publications? I think I have heard them all, and I believe the conclusions I have reached are just, honest and correct, viz:

1. The announcement: There can be no criticism of an announcement notice in the newspaper that a Doctor has opened an office in the Community, moved his location, or associated himself with another Doctor or Group of Doctors, and the field of Medical Practice in which he will be engaged. Wisely the A.M.A. has said that the length of time such an announcement should run depends on the usual custom of the Community, meaning, what other Doctors in that area have done in the past.

2. The courtesy, congratulatory, or endorsing, Professional card: This is the sneaker of all printed professional advertizing methods. The reasons for placing it are claimed to be altruistic, but the purpose is advertizing. The revenue committee of the church or school "news" or program chairman, calls on the Doctor to donate, but hates pure begging, so sells advertizing space for the revenue. The Doctor feels kindly and beneficent toward this activity, so buys the space. This type of pressure sales is with us always. The school or church paper, the civic theatre program, the school or college annual, or whatever, depends on its sale of advertizing space for the financing of the publication, but do not know the ethical medical attitude toward advertizing. It is much better ethics, if you feel that you must support the publication, to offer the solicitor a cash donation NOT to place your ad at all, and then none of your fellow practitioners can criticise you.

In this same catagory is the bright young advertizing manager of a newspaper who comes around asking that you place your card, along with many others, congratulating a new business or building, or whatever, and uses as an argument as to why one should buy such space, that Doctors are always asking for news space to warn of health hazzards, society news, and such matters, but are too tight to spend any of their own money to give the newspaper a profit. If you are convinced that your financial support is needed, or wish to buy good will of the managing editor, just make a donation equal to the cost of the space that would have been used if you had bought it!

3. The frank advertising card: This category includes all Medical Professional Cards published regularly in newspapers, phone books, directories or any similar modality. There CAN be no reason other than a desire to attract business, for these displays; and, whether placed by an individual Doctor, an Associated Group, or by a Clinic Manager, they are unethical. Actually, from a financial point, they do not return enough to justify their use, and there is no doubt that most of the dissention and ill feelings that result in our ranks is very often caused by this sort of thing. Those who do not use the professional card are very apt to resent those who do, and others who do use it, do so only because they feel compelled to do so or have unfair advantage taken over them. These are reasons why the A.M.A. decries the use of the professional card under whatever guise. The years have proved the wisdom of our Profession avoiding the use of advertizing for the purpose of attracting new business.

Our Profession is an ART and a SCIENCE. The products of ART or of SCIENCE may be enhanced or increased in value by newspaper advertising, but gain recognition and worth only as the worth of the product is established by public knowledge and acclaim.

For the sake, therefore, of maintaining high ethical relations between ourselves, and to avoid the appearance of one Doctor or Group or Clinic claiming special abilities or modalities over others, I urge and beg of you, Doctors of South Dakota, who have used, are using, or ever thought seriously of using the perennial professional card, to end the practice. Let us keep Medical Practice on a plane above the drive-in diner, the movie theatre and the marts of trade.

Let us strive "to best serve by those who best agree," that Medicine is not a common trade benefited by competitive advertizing, but that it is a congenial brotherhood of artists and scientists serving suffering humanity, together.

By L. J. Pankow, M.D.
Chairman of the Grievance Committee
South Dakota Medical Association

MEDICAL LIBRARY BOOKSHELF



PHENYLKETONURIA

According to an article by Helen G. Berry, et al, found in the **Journal of the American Medical Association,** v. 167, p. 2189 and entitled "Simple method for detection of phenylketonuria," this disease is characterized by the inability to metabolize an essential amino acid, phenylalanine, which is present in all proteins in average concentration of 4 percent. This and other unusual metabolites are excreted in the urine. This biochemical abnormality ordinarily leads to severe mental defect. Results have been reported indicating that treatment with diets low in phenlalanine have been successful in allowing normal physical and mental growth. It appears increasingly important to detect phenylketonuria in early infancy. A routine diaper test has been used in Southern California for some time. Urine containing phenylpyruvic acid that has been dried on filter paper gives a positive test with ferric chloride reagent even after several months. A simple method for collection of urine on filter paper which can be tested for the presence of phenylpyruvic acid is as follows: Mothers of new born infants are given several pieces of absorbent paper and instructions to place the paper in the baby's diaper to become wet. The paper is taken out, dried and mailed for testing. The test should be performed at 4-6 weeks of age, since phenylpyruvic acid may not be present in urine of infants with phenylketonuria until 2 or 3 weeks after birth. When each paper containing dried urine is received it is tested with a small drop of 10 percent ferric chloride solution. A urine specimen which contains phenylpyruvic acid turns green immediately. The green color fades after five minutes. The aromatic odor resulting from phenylpyruvic acid that has been dried on paper is very striking. Another test is given in this article if the ferric chloride test is doubtful or positive by examining urine further for presence of orthohydroxyphenylactic acid.

A description is given of phenylketonuria by Stanley W. Wright in the **Journal of the American Medical Association,** v. 165, p. 2079, 1957. It was first described in 1934 by a Norwegian biochemist named Folling. It falls within the group of "inborn errors of metabolism." Biochemically the disease is characterized by failure to oxidize phenylalanine, an essential amino acid to tyrosine and by the excretion of phenyl acids in the urine. One of these a phenyl-keto compound phenylpyruvic acid found in large amounts in the urine hence the name phenylketomuria. Early identification is important. It is one of the few disorders of the nervous system which may be specifically identified, and in which

the patient's clinical course and ultimate prognosis may be predicted. It is an inherited disorder, and the mode of transmission is well established. This enables the physician to give adequate genetic counseling to the family. If disease can be detected early in infancy, treatment with the recently developed low-phenylalanine diets may prevent the subsequent development of a severe mental defect. Characterized clinically by a severe degree of mental defect, a lightening of the color of the skin, hair and eyes and a strong aromatic odor of urine. A bizarre pattern of behavior may be observed. The disease occurs once in every 25,000 births and is transmitted as a simple Mendelian recessive. Marriages between relatives of phenylketonuric individuals should be discouraged. It is estimated that 1 in 80 persons in the population is a carrier of the phenylketonuric gene.

GIFT BOOK

Dr. Smiley Blanton, a prominent psychiatrist, who at 76, still leads an active professional and private life has written a book entitled: **Now or Never: The Promise of the Middle Years,** 1959. The publisher Prentice-Hall sent a gift copy to the **South Dakota Journal of Medicine and Pharmacy** which was sent from there to this library.

This is a book for middle aged people containing a philosophy of living that should be very helpful in overcoming the anxieties, fears, and tensions of everyday living; a philosophy that scoffs at the fear of declining power and declares the middle years the most enjoyable and rewarding years of one's life. Chapter headings include "Your Marriage — Triumph or Tragedy;" "Your Work—Punishment or Pleasure;" "The Hidden Faces of Money;" "Alcohol—Friend or Foe" and other topics related to everyday living. Out of his many years of practice with people with problems comes sage advice for solving them. The suggestions given in this very readable book to those in the middle age bracket, if followed, would lead to a more meaningful and worthwhile mode of living.

Mrs. Esther Howard

Medical Librarian

THE 109th ANNUAL A.M.A. MEETING: A FORUM FOR 2,000 TOP MEDICAL MEN

The 109th annual meeting of the American Medical Association will be a forum presented by some of the nation's top scientific brains.

Approximately 2,000 physicians, all outstanding in their field, will participate in presenting the scientific program of the meeting to be held in Miami Beach, June 13-17.

There will be two general scientific meetings in the Grand Ballroom of the Fontainebleau Hotel, and other lectures, symposiums, and panel discussions in the Fontainebleau, Eden Roc Hotel, and in the new, air-conditioned Miami Beach Exhibition Hall. Sessions on dermatology, being held jointly with the Society for Investigative Dermatology, will be in the di Lido Hotel.

The opening general scientific meeting, Monday afternoon, June 13, will begin with the Joseph Goldberger Lecture on Clinical Nutrition. Dr. Carl A. Lincke, chairman of the A.M.A. Council on Scientific Assembly, will preside at this meeting.

The lecture will be followed by a symposium on nutrition, including an address by Grace A. Goldsmith, professor of medicine, Tulane University School of Medicine, New Orleans, on "Highlights on the Cholesterol — Fats, Diets and the Atherosclerosis Problem."

The second general meeting will be a symposium on "Evaluation and Preparation of Patients for Anesthesia and Surgery," Tuesday morning, June 14, to which the sections on Anesthesiology, Diseases of the Chest, General Practice, Internal Medicine, Pediatrics, Pathology and Physiology, and Surgery have contributed. Participating will be Meyer Saklad, Providence, R. I.; Thomas Rardin, Columbus, Ohio; Eugene Turrell, Milwaukee, Wis.; John S. LaDue, New York City; Arlie R. Mansberger, Jr., Baltimore; George Meneeley, Nashville, Tenn.; Robert M. Smith, Boston and C. Rollins Hanlon, St. Louis, Mo.

Section Program

What's new in surgery will be explored during a symposium and panel discussion on Wednesday morning. The program was developed from suggestions obtained from a survey of the heads of departments of sur-

gery in the nation's medical schools.

The symposium will be on "Recent Advances in Treatment of the Cancer Patient" with an introduction to the problem including methods of decreasing spread of cancer cells during operations being presented by Warren H. Cole, Chicago. Dr. Cole also will serve as moderator of the panel on "Current Status of the Treatment of Advanced Cancer of the Thyroid and Breast."

Arthur M. Master, New York City, will speak on "Effort, Occupation (including physicians) in Coronary Occlusion" during a symposium on Medical Chest Emergencies, and John F. Briggs, St. Paul, Minn., will discuss "Pulmonary Embolism."

John H. Moyer, Philadelphia, will moderate a symposium on "Edema — Its Physiology and Use of Newer Diuretics in Its Treatment." Irving S. Wright, New York, will moderate a symposium on "Pathogenesis and Treatment of Thrombo-embolic Phenomena." Daniel C. Moore, Seattle, Wash., will take part in a session on "Newer Trends in Diagnosis and Treatment" discussing "Oxygen — The Rational Therapy for Systemic Toxic Reactions from Local Anesthetic Drugs."

There will be panel discussions on "Tumors of the Trachea and Bronchial Tree," with Paul H. Holinger, Chicago, moderator, and one on "Disseminated Diseases of the Chest," with Harold O. Peterson, Minneapolis, moderator.

Highlights of other section meetings include:

Nervous and Mental Diseases — E. S. Gurdjian, Detroit, "Critique of Occlusive Disease of the Carotid Artery and the Stroke Syndrome." Leo H. Bartemeier, Baltimore, "Comments on the Relations Between Psychiatrists and Other Physicians."

Obstetrics and Gynecology — Stirling G. Pillsbury, Long Beach, Calif., "31,595 Deliveries with One Maternal Death." Jerome M. Kummer, Santa Monica Calif., "An Answer for Criminal Abortion."

Internal Medicine — "Symposium on Hypocholesteremic Drugs." Walter L. Palmer, Chicago, "The Billings Lecture: Causality in Peptic Ulcer." Rudolph H. Kampmeier, Nashville, Tenn., "Collagen Diseases — Some Unanswered Questions."

Laryngology, Otology, and Rhinology — George A. Sisson, Syracuse, N. Y., "Problems and Complications in Head and Neck Surgery." C. M. Kos, Iowa City, Iowa, "Five Year Results of Stapes Mobilization and Current Results with Vein Plug Stapedeoplasty."

Preventive Medicine — Jan H. Tillisch, Rochester, Minn., "Medical Aspects of Safety in the Air." Robert B. Stonehill, San Antonio, Texas, "Air Travel and the Cardiopulmonary Patient," a film presentation.

Orthopedic Surgery — Sidney Keats, Newark, N. J., "Surgery of the Extremities in the Treatment of Cerebral Palsy." H. R. McCarroll, St. Louis, Mo., "The Management of Complicated Ununited Fractures of the Tibia and Fibula."

Pediatrics — Leonard S. Sommer, Miami, moderator, "Symposium on Congenital Heart Disease — Present-day Status from Viewpoint of Practitioner of Medicine."

The section on Miscellaneous Topics will feature a half-day session on the "Management of the Older Patient." Participants include Philip Thorek, Chicago.

Exhibits Number 290

About 290 exhibits will be on display in the Miami Beach Exhibition Hall, representing the most outstanding exhibits selected from 540 applications.

A new special exhibit on Body Fluid Disturbances, offering a complete course in body fluids, will be presented in its entirety on two days. Different aspects will begin at specific times to permit physicians to attend only those parts in which they are particularly interested.

A special exhibit on fractures will include booths on fractures of the ankle, hip, wrist, tibia and fibula, children's fractures, and fractures resulting from falls on the outstretched hand. About 50 prominent orthopedic surgeons will take part in the demonstrations at this exhibit.

Special on Pulmonary Function and Fresh Tissue Pathology also will be highlighted in the Scientific Exhibition area.

An outstanding program of motion pictures and television, which will be coordinated with the rest of the scientific program, will be presented also in the Miami Beach Exhibition Hall.

SOUTH DAKOTA JOINT COMMISSION FOR IMPROVEMENT OF CARE OF THE PATIENT

Minutes

The eleventh meeting of the SDJCICP was held as a luncheon meeting at the Marvin Hughitt Hotel in Huron on March 16, 1960. Attendance included the following: three members from the SDMA, three members from the SDHA, one member from the SDLN, three members from the SDNA, one ex-officio member, three participating group members and seven guests.

The meeting was called to order by Dr. J. Muggly, Chairman, at 12:35 p.m.

Since all members receive a copy of the minutes, there was general agreement to dispense with the reading of the minutes.

In the absence of Miss Zella Messner, chairman of the committee working on hospital regulations, Mr. Schultz, a member of the committee, was asked to report. He stated that the committee has not completed the regulations at this time.

The report of the nominating committe as prepared by Florence Atkinson, chairman, was read by Dr. Muggley: Edna Davidson, for the office of chairman; Doctor M. E. Sanders, vice-chairman. Moved by Dr. Buchanan and seconded by Sister Innocentia that the slate of officers be accepted as read and that the secretary be instructed to cast a unanimous ballot. Carried.

Following discussion, it was decided that the next meeting will be held on September 21st, 1960, again as a luncheon meeting in the Marvin Hughitt Hotel.

The Chairman read an informative letter from Miss Beulah Oldfield, president of the South Dakota League for Nursing, relative to the research project "Patterns of Nursing in South Dakota" presently being done by the Division of Nursing Education of the South Dakota League. Miss Boyd was then asked to represent the League in further explaining this research project. She stated that there had been talk of doing such a study for some years; however, definite plans to procede were not made until the spring of 1959. Miss Bertha Boekelheide is coordinator of the project and Dr. Harry Huls is research consultant and statistian (Miss Boekelheide and Dr. Huls are members of the State College faculty in Brookings.) Included also in the research group is one member from most of the schools of nursing in the state. It is anticipated that the project will include 2-3 separate studies; **the first study** is presently underway and will be published in the fall of 1960. The purpose of this first study is: (1) to determine what knowledge, skills and attitudes the employers of nursing personnel in S. D. expect said employees to have at the time of employment; (2) do nurses exhibit these qualities at the time of employment?; (3) how many nurses of various levels of preparation are needed in South Dakota? The method to be used is the questionnaire. The purpose of **the second study** is to determine, in those areas in which nurses are not functioning satisfactorily, if these functions are generally accepted to be nursing functions. **The third study** will utilize the information gained in the preceding studies and determine how well South Dakota schools of nursing are filling the need and how they need to be improved. The South Dakota League for Nursing believes that this research project will be of real value to all those concerned with improving the health care of the people of South Dakota. The membership of the SDJCICP was requested to report back to their sponsoring organizations regarding the study; it is believed that the sponsoring organizations can then be of assistance in two ways: (1) to encourage the understanding and cooperation of their members who are asked to fill out questionnaries; and (2) since this project is thought to be of general benefit, to assist with the financial load. The South Dakota Board of Nursing has contributed $500.00 and the South Dakota League for Nursing has provided $150.00 toward the expenses to be incurred in doing the first study (about $1,000.00).

The Chairman asked for discussion regard-

ing the SDLN research project. Dr. Sanders stated that she believed that it should be supported in any way possible. Mr. Foster stated that the SDMA had recently discussed the granting of funds for purposes such as this and had decided that rather than give money, it would be best to offer the services of the SDMA office to assist with mailing, etc.; also, that response might be better from doctors if questionnaires were directed from the SDMA office. Miss Davidson requested a copy of Miss Oldfield's letter and stated that she would like to have copies made and sent to SDHA members with the purpose of enlisting their support in assisting the SDLN with the project.

The annual treasurer's report was read by the secretary. The balance on hand on March 4, 1959 was $18.27. Total expenditures for the past year were $16.07; total receipts were $37.50, making the present balance on hand of $39.70. Moved by Miss Davidson and seconded by Sister Innocentia that the treasurer's report be accepted as read. Carried.

The Chairman announced that the program would consist of a panel to discuss the general topic, CARE OF THE AGED. The following panel members were introduced: Sister M. Rosaria, Administrator of Sacred Heart Hospital, Yankton, who spoke on **Care of the Aged in a General Hospital;** Sister M. Bonaventure, Administrator of McKennan Hospital, Sioux Falls, who spoke on **Nursing Care of the Aged.**

Doctor Clark F. Johnson, Yankton, who discussed **Medical Problems in the Care of the Aged;** and Thomas Schultz, S. D. Department of Health, Pierre, who discussed the **Care of the Aged from the Department of Health Standpoint.** An excellent panel discussion followed, the main points of which are reproduced here.

Sister Rosaria was assisted by Sister Jeanne Marie, a graduate student in administration at the Sacred Heart Hospital. Their comments were based mainly on the geriatric unit at the Sacred Heart Hospital. This unit was established because of the need in 1949 and occupies the entire top floor of the Hospital. Most of the guests are cared for with welfare funds and their state of health is such that they would not be accepted in the average nursing home. Sister Rosaria pointed out that patience is a prime characteristic in the person who aspires to give good care to the elderly patient. A cost analysis for operating the unit is done periodically and certain costs, such as, housekeeping and laundry, run consistently higher than in other patient care areas of the Hospital. Guests are charged according to whether they are classified as requiring minimal care, average care, or maximum care; a point system has been established whereby the guest can be objectively evaluated and considered to be in one of these three catagories; guests are re-evaluated monthly and re-classified as necessary.

Sister Bonaventure emphasized that nursing the aged is **not** a speciality — it is simply the application of general nursing knowledge to the care of the older person. The older person can be expected to exhibit the same personal characteristics that he has displayed in earlier years **except** that these characteristics are likely to become intensified in later years. The elderly have the same basic needs as all human beings. The older person should be challenged and encouraged by attention to the following: setting goals, developing a fighting spirit, appealing to religious motives, teaching the purpose of any therapy, teaching the patient to accept the therapy and also his condition, help him to see the humorous side of life, keep him busy with work and/or hobbies, and teach him to think of others, rather than self. The 'out of contact' patient requires much more observant care; the care he receives should reflect the same respect for the dignity of man accorded any other person. Special nursing problems may be cleanliness, food, incontinence and rehabilitation. There is a constant loss of protein in the aged patient, hence in addition to being acceptable and well-balanced, food for the aged should be high in proteins, vitamins (especially C and B complex), and minerals and it should be low in fat content; it should be remembered that mealtime is a time for socializing. One of the main factors in caring for the incontinent patient is to attempt to determine the **reason** for the incontinence. Rehabilitation of the aged patient is often sadly neglected while he is over-nursed and over-helped rather than gradually helped to progress to the optimum independence that

his physical condition will permit. General hospital specialized facilities, such as rehabilitation departments might be utilized to a greater extent by nursing home guests. We have a responsibility for upgrading and providing adequate supervision for all nursing personnel. Our goal for the aged should be to help them to believe that "Age is opportunity no less than youth, though in another dress." — Longfellow.

In discussing the medical problems in caring for the aged, Doctor Johnson stated that the medical problems were not unique from the nursing problems; they were often the same problems. As a doctor caring for the aged, he believes that one of the most important things in helping an aged person, as well as other patients, is to let the patient talk, thus gain his confidence by showing him that you are interested in him as a person. Another important factor in the care of the aged is to determine the stress and exhaustion level of the patient, (which varies greatly from person to person) and motivate the patient as much as possible. The human being was not meant to remain in a horizontal position twenty-four hours per day; this is demonstrated by the medical problems that arise when patients are kept in this position, hence patients should be helped out of bed daily, if at all possible. The senior citizen and the community from which he comes need to be re-educated to believe that he is **not** finished at the age of 65. The retirement age of 65 was arbitrarily set some years ago as a compromise between labor and management who could not agree as to whether the age of retirement should be at the age of 60 or 70.

Mr. Schultz discussed the trends in nursing home in South Dakota, and some of the policies and problems. He stated that there are presently 101 nursing homes in South Dakota with a total capacity of 2,322 beds. Around 19 of these homes were built in recent years and 1,200 beds are presently located in homes that were specifically designed for the aged. At present, there are no clear cut lines of distinction between nursing homes and homes for the aged. The first licensing law was passed in 1947 and amended in 1950 to include homes for the aged. The Health Department recognizes that standards, especially earlier standards, for licensing, are weak; however, conditions in most of the nursing homes were deplorable at first and it was thought best to go slow and attempt to improve the situation by holding workshops, etc. before adopting more rigid standards. Many of the homes lack or are limited in rehabilitation, occupational and recreational facilities and physio therapy. In advising persons who wish to build a nursing home, the Health Department would recommend the following: a minimum of 50 square feet per person for three-fourths of the population should be allowed for rehabilitation, recreation, etc., area. In order to assure economy of operation, there should be forty beds; however, it is best not to make the home much larger than this or it becomes difficult to maintain the personal, home-like atmosphere; also smaller homes will probably mean more homes and these will probably be located closer to the patient's real home. The home should **not** be in an isolated area as it has been shown that the elderly like to watch movement and activity and feel themselves to be a part of the main stream of life. It is best not to have the nursing home as a part of a hospital unless it can be separate enough to have its own entrance and maintain its own identity; while it is true that guests may receive better medical care when the unit for the aged is included in the hospital proper, they do not receive better personal and social care; hospitals tend to be more routinized, visitors' hours are not as free and it is difficult to maintain a home-like atmosphere. At the present time, the State will not permit the family to suppliment the charge for the care of a welfare patient; Mr. Schultz explained that one reason for this was that some homes would simply raise their rates. Last year the Health Department made a change in the manner of establishing the amount to be charged for the care of the welfare patient; previous to that time, the various counties set their own rates and the lowest price (often without due consideration for quality) was often the most popular with county commissioners; also, there was a trend to pay more for caring for a 'bed' patient and this is thought to have encouraged some operators of homes to keep the patient a bed patient. A point system has now been established and an effort made to de-emphasize the 'bed' patient. Many untrained workers are employed in nursing homes; the Health

(Continued on Page 254)



MIAMI BEACH, the fabulous Florida resort center pictured above, becomes the site of the 109th Annual Meeting of the American Medical Association on June 13-17. The scientific meeting will take place in the beautiful Fontainebleau Hotel and in the completely air-conditioned Miami Beach Auditorium, located a short distance from ocean front hotels.

wherever there is inflammation, swelling, pain

VARIDASE®

Streptokinase-Streptodornase Lederle

BUCCAL Tablets

conditions for a fast & comfortable comeback

Host reaction to injury or local infection has a catabolic and an anabolic phase. The body responds with inflammation, swelling and pain. In time, the process is reversed. VARIDASE speeds up this normal process of recovery. By activating fibrinolytic factors VARIDASE shortens the *undesirable phase,* limits necrotic changes due to inflammatory infiltration, and initiates the constructive phase to speed total remission. Medication and body defenses can readily penetrate to the affected site; local tissue is prepared for faster regrowth of cells. In infection, the fibrin wall is breached while the infection-limiting effect is retained. In acute cases, response is often dramatic. In chronic cases, VARIDASE Buccal Tablets can stimulate a successful response to primary therapy previously considered inadequate or failing.

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VARIDASE Buccal Tablets should be retained in the buccal pouch until dissolved. For maximum absorption, patient should delay swallowing saliva.

Dosage: One tablet four times daily usually for five days. When infection is present, VARIDASE Buccal Tablets should be given in conjunction with ACHROMYCIN® V Tetracycline with Citric Acid.

Each VARIDASE Buccal Tablet contains: 10,000 Units Streptokinase and 2,500 Units Streptodornase.

Supplied: boxes of 24 and 100 tablets.

1. Innerfield, I.: Clinical report cited with permission
2. Clinical report cited with permission

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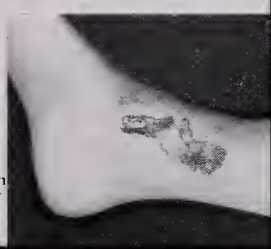




FORCE INJURY

severe bruises . . . swelling . . . cleared by fifth day[2]





VARICOSE ULCER

15 years duration . . . resolved with VARIDASE[1]





INFLAMMATORY DERMATOSIS

rapidly spreading rhus dermatitis healed within a week[1]





INFECTED LACERATION

marked reversal in 3 days . . . returned to school . . . closure advanced[1]





THROMBOPHLEBITIS

back on his feet in a week after recurrent episode[1]





REFRACTORY CELLULITIS

normal routine resumed after 4 days of VARIDASE[1]

COEXISTING RUPTURED ECTOPIC AND INTRA-UTERINE PREGNANCY—

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CONTROL OF STAPHLYLOCOCCAL INFECTIONS IN NEWBORN NURSERIES—

(Continued from Page 234)

With this problem of Staphylococcal infections in newborns becoming such a threat, what is the procedure for control? Shaffer, Baldwin, and Wheeler suggest the following:

(1) Culture all purulent lesions in patients.
(2) Search for and culture all purulent lesions in personnel.
(3) Compare strains of different patients.
(4) Obtain nasal cultures on patients and personnel.
(5) Review nursery practices.
(6) Remove infected infants and healthy carriers from nursery.
(7) Protect skin of well infants.
(8) Convert susceptible infants to non-susceptibles through prophylactic antibiotics.
(9) Clean the quarantined nursery.
(10) Return carriers to duty after several negative cultures.

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LEUKEMIA II PRESERVE CONCEPTS OF THERAPY—

(Continued from Page 241)

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MINUTES OF THE SDJCICP—

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Department is attempting to help this situation by workshops and by an aid training program.

The Chairman expressed the appreciation of the group for the very fine program and asked if there were any announcements before adjournment. Mr. Schultz reminded the group that the SDHA-SDLN convention will be held jointly again this year and will be held in Huron April 26-28, with the SDHA meeting on the 26th, a joint meeting of the SDLN-SDHA on the 27th and the SDLN meeting on the 28th.

The meeting was adjourned at 3:25 p.m.

Respectfully submitted,

Helen R. Boyd, R.N., Secretary, SDJCICP

This is your

MEDICAL ASSOCIATION

NEWS • NOTES • • • BIRTHS • • • CHANGES • NEWS

Pop's Proverbs

Bill Jones was an interesting psychosomatic problem, but all he needed was a balanced home budget.

NEWS NOTES

Dr. M. Sanders of Redfield, attended the American Heart Association meetings in San Francisco, in early April.

* * *

Dr. D. L. Kegaries of Rapid City, and **Dr. C. J. Clark** of Watertown, attended the American Society of Internal Medicine meetings in San Francisco, early in April.

* * *

Presho residents are planning to build $20,000.00 medical-dental clinic for the use of **Dr. K. Sprosts** and an unnamed dentist.

* * *

Dr. A. P. Peeke returned to Volga early in April after surgery and a long convalescent period.

Dr. D. S. Baughman, Madison, was awarded a citation for meritorious service by the Governor's Committee on Employment of the Handicapped posthumously.

* * *

Post-Graduate Seminar in Arthritis and Related Diseases will be held June 11th and 12th, 1960 immediately following the annual meeting of the American Rheumatism Association and immediately preceding the annual meeting of the American Medical Association. This course is acceptable for 8 hours Category I Credit by the Academy of General Practice. The meeting will be held at the Diplomat Hotel, Hollywood-By-The-Sea, Florida. Registration fee is $15.00.

* * *

Dr. Paul Bunker, Aberdeen, was chosen President Elect of the Minnesota Academy of Ophthalmology and Otorhinolaryngology. Dr. Bunker gave two talks entitled, "Practical Points in Endoscopic Technique" and "Unusual Foreign Body Experiences" at the post graduate course at the University of Kansas in April.

* * *

Dr. F. E. Manning, Custer, has been named as an offical alternate delegate to the Republican National Convention in Chicago.

* * *

Dr. Mary Price, Armour, spoke to the Delmont Study Club on detection of cancer late in March.

* * *

Dr. J. D. Bailey, Rapid City, represented the South Dakota State Medical Association and the South Dakota Chapter of the American Academy of Pediatrics at the White House Conference on Children and Youth in Washington, D. C. in early April.

Drs. Pieter and **Anna Krijger** have announced that they will serve the community of Conde as well as Groton.

SIOUX FALLS DISTRICT HEARS MAURICE LEV

Dr. Maurice Lev, Professor of Pathology at the University of Chicago spoke at the April 5th meeting of the Sioux Falls District Medical Society on "Basic Concepts of Congenital Heart Disease." The appearance of Dr. Lev was sponsored by the South Dakota Heart Association.

Dr. Dean Austin, Brookings, has announced that he will move to Florida in June. He has practiced in Brookings for the past 14 years.

* * *

AMA will sponsor Public Relations Conference at the Drake Hotel in Chicago, September 1-2.

* * *

F. J. Gilbert, M.D., Belle Fourche, has been named chairman of the Butte County Mental Health Association.

* * *

C. J. Clark, M.D., Watertown, attended the meetings of the American Society of Internal Medicine in San Francisco April 1-3.

* * *

Donald Breit, M.D., Sioux Falls, and **John C. Foster** represented South Dakota Blue Shield at the annual meeting in Los Angeles April 3-7.

WOMAN'S AUXILIARY PLANS 37th ANNUAL CONVENTION

A water safety demonstration will be one of the highlights of the 37th annual convention of the Woman's Auxiliary to the A.M.A.

More than 2,000 physicians' wives will attend the meeting which is being held in conjunction with the A.M.A. annual meeting June 13-17 in Miami Beach. Auxiliary headquarters will be the Hotel Deauville.

The convention will formally convene Monday morning, June 13, with reports of officers and chairmen and election of the nominating committee. The opening will be preceded by committee meetings on Saturday and Sunday June 11-12.

The annual tea and fashion show honoring the president, Mrs. Frank Gastineau of Indianapolis, and the president-elect, Mrs. William Mackersie of Detroit, will be held Monday afternoon.

On Tuesday afternoon a special water safety program will be conducted at the hotel pool under the auspices of the Dade county chapter of the American Red Cross. Slogan for this presentation will be "SWAT—Safe Water Activity Training" to publicize the Auxiliary's 1960-61 safety campaign.

Business sessions on Tuesday will be devoted to reports of national chairmen in the fields of legislation, civil defense, mental health and recruitment.

National past presidents of the Auxiliary will be honored at Tuesday's luncheon. Guest speakers will be Dr. Louis M. Orr, A.M.A. president, and Dr. Vincent Askey, A.M.A. president-elect. At this time the Auxiliary will announce its contribution to the nation's medical schools through the American Medical Education Foundation. Awards of merit will be presented to the state and county auxiliaries contributing the most to this project.

Election and installation of new officers will be the principal order of business during Wednesday's sessions.

A program of films on recruitment, aging and other worthwhile projects will be presented Thursday morning. In the afternoon round table discussions and program planning for the coming year will be moderated by the new chairmen.

A full schedule of activities — ranging from dancing and ping pong to boat trips and tours — is being arranged for the teenaged members of A.M.A. families by the Auxiliary.

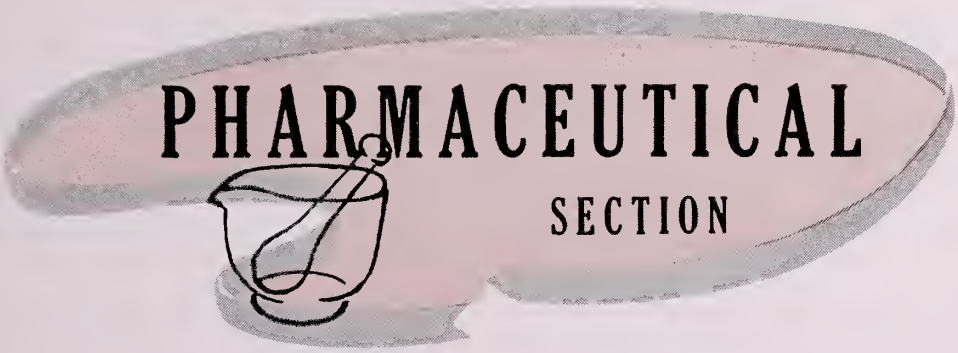
All Auxiliary members, their guests and guests of physicians attending the A.M.A. annual meeting in Miami may participate in the social functions and attend the general meetings of the Auxiliary.

Local arrangements are under the direction of Mrs. Richard F. Stover of Miami, convention chairman.

ROSEBUD DISTRICT FORMS NEW GROUP

The Rosebud District Medical Society in conjunction with the local dentists and pharmacists in that area have organized a new Rosebud Inter-Professional Society. The officers elected for the joint group are T. C. Rutherford, pharmacist; R. L. Lillard, M.D.; and V. Soll, D.D.S.

The group plans to meet every two months and discuss problems and matters of interest to the three groups.



HAROLD S. BAILEY, PH.D.
EDITOR
Division of Pharmacy
South Dakota State College
Brookings, South Dakota



VITAMINS

Perspectives and Prospectives*

by

Karl Folkers, Ph.D.**

Rahway, New Jersey

I am very grateful to be the 54th recipient of the Perkin Medal. Such recognition gives me a feeling of strong support for the difficult challenges in research. In expressing my profound appreciation for the Perkin Medal, I promptly acknowledge the contributions by my associates in research who have been both within the Merck Sharp & Dohme Research Laboratories, and in outside cooperating university laboratories and institutes. My life has been vitally enriched by these personal associations, this fellowship in research, and I am thankful.

This commemoration of the discovery of mauve by Perkin led me to read about him in some dusty volumes.

In his Presidential address to the Chemical Society in 1884, Perkin dwelled at length on the significance of the Doctor of Philosophy degree in Chemistry in German, and the prosecution of original work by the German chemists. He said:

> "It is believed that if something analogous to the Ph.D. could be inaugurated in this country, it would help to further chemical science here."

With men trained as in Germany, Perkin expected to see the chemical industries of his country flourish. Perkin went on to say:

> "It appears that there are two kinds of chemistry in existence, one suitable for the manufacturer, and the other suitable for the scientific man; and unless this idea can be successfully eradicated, we shall be left in the position of followers, instead of being originators of new processes in industries."

It is startling to realize how these remarks of Perkin could be paraphrased for some of today's educational and research problems, at the national and international level. Although chemistry has made much progress since Perkin made this statement, it is doubtful that we have yet reached the proper bal-

*Address delivered by Dr. Folkers upon being awarded the 1960 Perkins Medal at a dinner given by the American Section of the Society of Chemical Industry, Waldorf-Astoria Hotel, New York City, Friday, February 5, 1960.

**Executive Director of Fundamental Research, Merck Sharp & Dohme Research Laboratories, Division of Merck & Co., Inc.

ance between basic research and the requirements of the profit system.

For this address, I have avoided a strict historical account, but I should like to use the past to see how it might help some of our contemporary problems. I should like to draw from our experience in nutrition research a few ideas that might help us accelerate the rate of discovery for the future. I shall present these ideas not as settled conclusions, but for the purpose of stimulating a reappraisal of our status in nutrition and of how we might best make new progress. This disclaimer of settled conclusions applies particularly to the nomenclature, which has been selected to serve tonights purpose.

What Can Be Said About Discovery?

The vitamin concept was not popular prior to 1912. In fact, the early research was very polemical, and the concept of vitamins did not readily win universal acceptance. Your daily requirement of certain vitamins is now accepted knowledge, and scientists have determined that you need about 1.5 mg. of B_1, 2 mg. of B_2, and so on. Today, we know that the quantities you can place on the **head** of a small pin for B_1 or B_2 and on the **point** of a pin for B_{12} are essential for life. Although we now accept vitamins scientifically, how are vitamins considered in day-to-day life?

Goodhart wrote recently that despite an abundance of foodstuffs in the United States, dietary inadequacies do exist and are common. Such inadequacies are particularly prevalent and serious among adolescent girls and young women. Actually, certain USDA data indicate that the margin of safety is not large and may be nonexistent for thiamine, riboflavin, and possibly vitamin A. This interpretation is not in agreement with certain opinion that dietary inadequacies, particularly of vitamins, are rare in the United States, because of our abundance and wide availability of food. When we consider the whimsical nature of our appetites and the practices in our kitchens, it is hardly to be expected that our daily nutrition closely approaches the ideal, and when we consider our knowledge of scientific nutrition, it is evident that we have much more to learn about the established vitamins, and we have literally everything yet to learn about possible undiscovered vitamins.

Vitamin B_1 is the classic example of the discovery, or the recognition of the activity, of a vitamin as the result of a direct biological study of a **human disease:** i. e., beriberi. Vitamin B_6-activity was discovered from direct **animal** studies of the B-complex by Paul Gyorgy.

Newly claimed vitamins are not always confirmed. Our search for "vitamin B_{13}" at Merck Sharp & Dohme failed to confirm its existence, but fortunately the effort led to the discovery of mevalonic acid, which significantly advanced basic knowledge of the pathways of biosynthesis of substances containing the isoprenoid unit, particularly cholesterol. This theoretical insight may yet contribute to the clinical treatment of atherosclerosis.

Nutrition research on scurvy was influenced by a discovery in another field quite irrevelent to scurvy. Albert Szent-Gyorgyi discovered a crystalline substance that was in the adrenal gland, in the cabbage and in the orange which was recognized about four years later by King and by Szent-Gyorgyi as the antiscorbutic factor. You know this substance today as vitamin C.

Nicotinic acid had been discovered by organic chemists in Germany shortly after Perkin discovered mauve. Nicotinic acid was rediscovered by Funk in 1911 in London and by Odake in 1912 in Tokyo in their fractionation of natural materials for B_1, but they were unaware that nicotinic acid is the vitamin that prevents human pellagra. Very significantly, Warburg and Christian discovered twenty-five years later that nicotinic acid is a component of coenzyme II and showed that nicotinic acid functioned in a hydrogen-transporting coenzyme. Still later, Spies showed that nicotinic acid cured human pellagra, and his medical discovery appears to have been influenced more by the isolation of nicotinamide from liver by Elvehjem's group, and their demonstration of its effectiveness in curing canine black-tongue, than by the earlier studies of Warburg on coenzyme II.

Let us pause and consider this record. We can see that the happenstance sequency of scientific discoveries is often an out-of-order sequency. We can see long periods of time when the vital relationship between discov-

eries is not recognized. Such sequence and separation of discoveries cause man hardship.

Could one have shortened the gap between the discovery of the crystalline substance from oranges and the cure of scurvy, or the gap between nicotinic acid from natural materials and the cure of human pellagra twenty-five years later, with Warburg's coenzyme II in between?

Let us suppose that the history of vitamin B_{12} had been different in chronology and that a red cobalt coordination complex had been isolated from **Streptomyces griseus** by the guidance of an organism such as **Lactobacillus lactis** with **no hint** of a tie-in with the background on liver and pernicious anemia. By what connecting links would this discovery be bridged to the treatment of pernicious anemia and how long would it have taken? Fortunately, we at Merck began the purification of the antipernicious anemia factor from liver with the guidance of tests on pernicious anemia patients, and in due time, we had a concomitant program on fermentation source materials and a microbial response. I well remember the impact of our convincing data on the identity of the red product from liver and the red product from **Streptomyces griseus** which dispelled some hesitation of medical thinking to believe that a treatment for human pernicious anemia could really be theoretically sound with something from a microorganism.

Can the Rate of Discovery Be Increased

Can man, can the scientist, hasten the process of discovery and the integration of separated discoveries, or must nature take its own course? It seems likely that there are separated discoveries in nutrition which are known today, but which no one has yet connected. There may be **known** chemical compounds from nature which are somewhat ahead of their medical time, as were vitamin C, nicotinic acid, and vitamin B_2. Fortunately, discovery can be hastened, in some cases.

Support for the affirmative answer is found in the knowledge that the rate of discovery increases under the effect of war, or some other crisis. For example, eleven years passed before Fleming's dormant discovery of penicillin was re-investigated by Chain, Florey and co-workers in their search for new antibacterial substances, and they demonstrated that penicillin could protect mice against three pathogenic organisms. The influence of the war on the subsequent events is well known. Again, the first synthesis of cortisone by Sarett was influenced by wartime objectives in our own country. There are other conspicuous examples.

Under such influence, the scientist will direct his mind and energy to significant and specific objectives. His willingness to do so is just as potentially available in peacetime. While I do not wish to minimize the indispensable nature of freedom in research, it is possible that more control over the rate of discovery is apt to come from planned research.

Planned research is defined as basic research directed at a specific target. It is conscientious research that pursues crucial approaches towards reaching highly important but specific objectives. It is basic research because it is aimed at a target that, if reached, will add to the store of fundamental knowledge and to the basic tools at man's disposal for coping with his environment.

The scientist pursuing planned research has faced up to a difficult task, because he is judged not alone by his new data, but by his progress towards his goal. On the other hand, the scientists who pursues basic research for the accumulation of new knowledge has a plan, and may indeed uncover something vital; but usually he is judged by his new data and new theories. His objective, if achieved, need not be of immediate benefit to mankind.

I want to make myself abundantly clear. I am not in any way suggesting a relaxation of basic research for new knowledge; in fact, it should be enormously increased. I am only suggesting that more planned research might increase our rate of discovery.

The scientist pursuing planned research must do so with drive, enthusiasm, patience, and particularly an open mind. The maintaining of an open mind is a subtle and difficult act of mental behavior, not only for the scientist, but for those who support or judge him, and who continue the research. For example, there is the classic contribution of the late James Sumner on the isolation of an enzyme, urease. Like many new concepts, Sumner's demonstration that this enzyme is a protein was greeted by skepticism at best, and actual

derision by authorities on enzymes. About eight years passed before all the minds opened to acknowledge the protein concept of an enzyme. It has been said that:

"The human mind has an infinite capacity to resist the entrance of new concepts."

The rate of discovery can be increased by new techniques. Spurts of progress can be achieved frequently by the use of new and powerful methodology. Our initial research at Merck on the purification of the antipernicious anemia factor was party motivated by a desire to test the technique of chromatography. This technique is so commonplace today that it is hard to believe that chromatography was novel to this project in 1942. Chromatographic purification was an essential step in our eventual isolation of the pure crystalline vitamin, which you know today as B_{12}.

Although organic degradation elucidated significant moieties of the vitamin B_{12} molecule, x-ray crystallography swept the problem of structure to a conclusion, and as Todd once remarked, probably years before the organic chemist would have finished the problem by degradation.

The comparatively new methodology of proton nuclear magnetic resonance was used in our elucidation of the structure of coenzyme Q, a new quinone of biochemical significance. Specifically, we learned that this new coenzyme has a 6 structural types of protons and that the molecule itself possesses a total of 90 protons, besides 59 carbon and 4 oxygen atoms.

The use of mass spectrometry to determine the molecular weights of voltilizable organic compounds is also a comparatively new technique of equal moment. I may cite two examples: Buchi recently determined the structure of the alkaloid ulein and gave much credit to mass spectrometry for determination of the precise molecular weight and formula, which in turn greatly accelerated the entire structural elucidation. Specifically, the molecular weight of ulein was found to be 266, and the hydrogen content is 22, and not 20, and not 24. Natural product chemists can really appreciate this precision.

Another impressive example of the use of mass spectrometry was reported jointly from Yale, MIT and Upjohn a few weeks ago. Four hundred micrograms of a substance in essentially pure form was isolated from 100 grams of bovine pineal glands. One cannot do much with four-tenths of one milligram of material. Mass spectrometry revealed that the product had a mass of 219 and a fragment had a mass of 160. These data, combined with spectral evidence, led to the interpretation that the compound was 5-methoxyindole-3-acetic acid. This structure was confirmed by synthesis.

These spectacular techniques of proton nuclear magnetic resonance and mass spectrometry save the chemist an immense amount of time, and therefore, speed up discovery. If we may associate the test tube with the days of Perkin, we may say that the money left over from a budget item of one-quarter of a million dollars to purchase, house, and operate NMR and mass spectrographic equipment leaves only some change to buy test tubes. However, such expensive instrumentation buys months or years of time. The rate of progress is truly accelerated, and oftentimes, completely unexpected discoveries are made which older methodology could not have revealed.

One may consider whether or not modern chemical and physical methods which can reveal the chemistry of vitamins have outpaced the methods for study of animal and human nutrition. Let us consider now one approach to enhance discovery in animal and human nutrition.

What Can be Said About Experimental Animals as Models?

Unquestionably, nutrition research carried out with the rodent has been of direct benefit to solving problems of human nutrition and nutritional disease. There are important examples, however, where the use of the primate led to unique progress in our study of the vitamins. Taxonomically, the expression "primates" includes man, but by common understanding, the word primate is often used to mean primates other than man, and in my further remarks, I shall use the common definition. In up-to-date nomenclature, the expression "simian primates" is used and excludes man. There are at least six genera of monkeys which are potentially available for laboratory research on primate nutrition. The most common is **Macaca mulatta** or the

Rhesus monkey, and it is so common that when most laboratory workers speak of the monkey, they are actually referring to this one. May I now describe some examples of the uses of the primate for nutrition research that have yielded remarkable results and which support the belief that broader use of the primate could further enhance discovery.

We reported the synthesis of vitamin B_6 from Merck after our isolation and structural elucidation of this substance. Numerous animal studies were conducted in the following years. However, Rinehart and Greenberg, a full decade later, were the first to maintain the primate on a vitamin B_6-deficient diet, for a year and longer, and observe sclerotic lesions in the arteries of the deficient animals. The extent of the lesions correlated with the duration of the B_6 deficiency. They based this work on the similarity of the metabolism of the monkey and man. These milestone observations were confirmed in our Merck Institute. It was found also on further study of monkeys subjected to protracted vitamin B_6 deficiency that the incidence of dental caries was very high. These pioneer observations of sclerotic lesions in the monkeys, resembling human arteriosclerosis, and dental caries in the monkey have prompted follow-up investigations which are still in progress.

The first indication of the existence of the vitamin known today as folic acid actually originated from experiments on the primate. In 1935, Paul Day and his co-workers were the first to appreciate fully that a nutritional syndrome involving a new vitamin resulted when monkeys were maintained upon a certain diet.

The maintenance of the primate upon any experimental diet of suspected deficiency or ill-effect for man and for protracted periods of time is a very straightforward proposition.

Early studies with rats and chicks failed to reveal the human pellagra preventive factor, known today as nicotinic acid or niacin. In due time, Goldberger and his associates produced a disease in dogs, called canine blacktongue, by feeding essentially the same diet associated with human pellagra. Historically, Elvehjem and his associates isolated niacinamide from liver, and proved its curative activity for the disease in dogs. Of course, the curative effect of niacin in human pellagra promptly followed. After the human problem was solved, a pellagra-like deficiency was established in the primate and dramatically cured with niacin. If more work had been done with the primate in the early stages, would this problem have been solved sooner?

There is another prominent discovery which came to light when the primate was used in the hormone field. In the early 50's, several groups of investigators failed to obtain a positive anabolic activity when preparations of the bovine growth hormone were administered to man. Such preparations were uniformly active in the hypophysectomized rat, and for years this rodent had guided endocrinologists studying the growth hormone. This failure of the data on the cow, the rat, and man to correlate remained an enigma for fully 5 years, during which the chemists fractionating the pituitary and the biologists testing the fractions were probably suspicious of each other. In 1955, Wilheimi and Knobil voiced their suspicion that the discrepancy was due to species specificity, and they were correct. It was then found that the bovine growth hormone is inactive in the monkey, and that preparations of the monkey and human growth hormone are anabolic in man. Such remarkable facts encouraged Brink and Lewis at Merck to isolate the crystalline human growth hormone, so that it may be administered to man to establish an unambiguous medical base line of human response.

Hartroft and co-workers have very recently described modifications of their dietary production of experimental arterial thrombosis with resultant myocardial and renal infarction. Although these infarcts are produced in rats by dietary manipulation, it is reported that the infarcts in rats were "indistinguishable from those seen in man." Although experimental atherosclerosis had been produced in animals for many years, the deliberate induction of occlusive arterial thromboses and infarction by diet alone was without significant precedent prior to 1957. Surely, an attempt to produce infarcts by manipulation of the diet of the primate is a compelling objective. Experimentation with the primate might not prove to be essential in this project, but correlation between the experimental infarct and the human disease is essential.

Since the phenomenon of species specificity

is established, we may anticipate in some instances further set-backs with rodents and enhance discovery by increasing work with the primate, if our objective is a study of human disease.

Certain vitamin antagonists, particularly in the folic acid field, have exhibited antitumor activity, and I should like to include some remarks about cancer research. In 1951, Toolan at Sloan-Kettering reported some useful and significant findings. She successfully achieved implantation of human tumors in rats and hamsters by a conditioning procedure, involving the use of X-irradiation and cortisone. Her further exciting new findings on these human tissues revealed their capabilities for long-term preservation by freezing and their retention of species specificity. It seems logical that the use of human cancer tissue in this hetero-transplantation technique in conditioned rats and hamsters could enhance the probability of discovering and evaluating compounds to treat human neoplasms. A logical extension of this new methodology would be to implant human tumors in the primate, and of course, at advanced stages of evaluation of new active compounds. Whether or not clinically effective antitumor agents can be found earlier by extending the important studies of Toolan and Woolley on transplantable human tumors remains for further work. In any case, the experimental tissues are closely related to the species of origin; that is, the clinical cancer patient.

Admittedly, rats and mice are less costly than monkeys, and simpler to cage in the lab. However, the time-honored expression "penny-wise and pound foolish" might be found to apply to some present or future projects in nutrition. Rats and mice are penny-wise, but on occasion, the primate has yielded and may yield the milestone data.

Admittedly, rats and mice may be better for statistics, but what good are statistically significant data, or negative data, if the rodent data should not correlate with the disease in man? Actually, the **Saimiri** or squirrel monkey from South America is small and inexpensive, and appears to be a primate of choice when large numbers are needed for a latin-square design and when space, noise, and aggressiveness are factors.

In the race for space, the monkey has made fast progress and reached an elevated position. In the race for health, we might make faster progress if we would elevate the position of the monkey in our planning of nutrition research. Further, the disadvantages of conducting most of the research with a single species of the primate has already been established.

Even cautious, but deliberate study, of nutritional deficiency in man has yielded advances, as exemplified by Vilter's study of vitamin B_6 deficiency and Bean's study on pantothenic acid deficiency at the human level.

> Harry Golden writes, "Eeverybody is running," and "As our technology increases, we become more and more impatient that the pace is too slow."

However, increasing the pace from disease to health does interest us.

What Can Be Said About Discovery From Theoretical Insight?

It appears that expanding research in enzymology will lead to an increasing rate of discovery, involving vitamins and nutrition. Vitamins and coenzymes are combined with enzymes as a complex, and in such cases, the fundamental catalysis is actually the molecular reactions of the co-enzyme. Although it is already apparent that some enzymes function without any coenzyme, other than certain units of amino acids, it seems plausible that new coenzymes and their corresponding vitamins will be discovered as mechanisms of new enzymatic transformations are pursued. I should like to cite two new and prominent examples of such discovery of new coenzymes:

Barker and his group at Berkeley had been investigating the enzymatic transformation of glutamate to beta-methylaspartate, by cell-free extracts of **Clostridium tetanomorphum,** and observed that a cofactor was required. There was no clue concerning the chemical nature of the cofactor, until it had been purified and isolated. Surprisingly, the coenzyme is an adenine B_{12} coenzyme. This development in 1958 has opened new lines of research in the vitamin B_{12} field.

Another recent study which links vitamin B_{12} with amino acids was carried out by Arnstein and White in London. They investigated the function of vitamin B_{12} in the metabolism

of **Ochromonas malhamnesis.** This protozoan resembles animal tissues in having an absolute requirement for vitamin B_{12}. They found that under certain conditions and in the absence of vitamin B_{12}, the labelling of valine, methionine, phenlalanine, and tyrosine was reduced much more than was the incorporation of amino acids into protein. It was concluded that the biosynthesis of these four amino acids is severely reduced in the absence of vitamin B_{12}, and this effect could result in a net decrease in the incorporation of amino acids into protein. It had previously been reported by Johnson at Illinois that protein biosynthesis is impaired in vitamin B_{12} deficiency. The importance of protein biosynthesis is such that one can expect this field to expand.

Crane and his associates in Madison discovered a unique quinone, which has been named coenzyme Q_{10}, as a result of their basic studies of various electron transport particles derived from beef heart mitochondris. The mitochondrion is a rod-shaped structural component of tissue cells, which contains energy-producing enzyme systems.

English investigators at Cambridge and particularly at Liverpool, working upon the biochemistry of vitamin A, also made contributions to this new field, and Morton introduced the term ubiquinone, as derived from ubiquitous, because of the wide distribution of this quinone. Coenzyme Q is an essential component in mitrochondrial electron transfer, and succinate-oxygen or succinate-cytochrome C reductase activities are lost when coenzyme Q is removed from the mitochondria. Activity is restored by the specific addition of coenzyme Q. It can be said that the removal of coenzyme Q short-circuits the electron transfer chain, and biochemical functions stop.

The participation of coenzyme Q in carbohydrate metabolism and a projected direct tie-in with oxidative phosphorylation have given this quinone great theoretical interest. A well-known biochemist lectured recently on oxidative phosphorylation as the "flame of life."

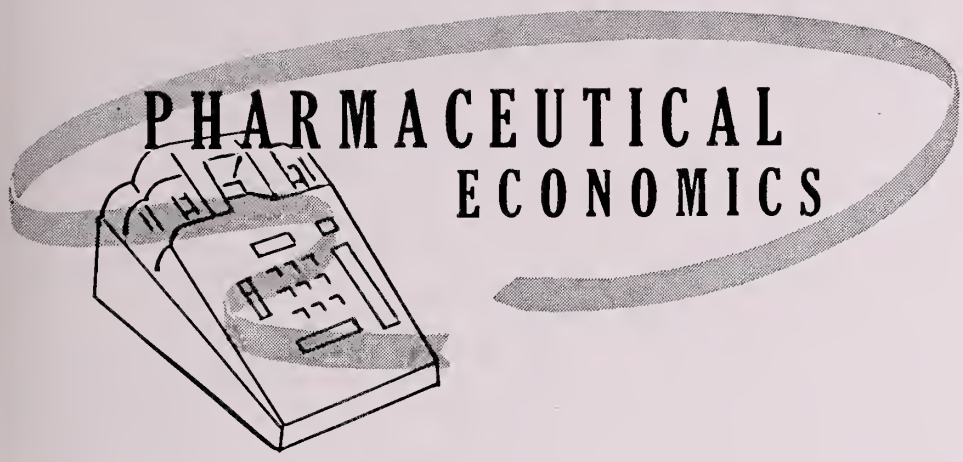
Another new quinone, structurally related to coenzyme Q_{10}, has been discovered in green plant tissue. It is called plastoquinone, because it apparently exists in the chloroplasts of the plant tissue. Robert Hill succeeded in 1937, where all others had failed, in further defining the photosynthetic process from a study of isolated chloroplasts. In 20-odd years of subsequent research, only chlorophyll and manganese ion were shown to be essential in this process. Up-to-the minute data from Bishop make it extremely probable that plastoquinone is a catalyst truly involved in photosynthesis. It now seems obvious that plastoquinone is involved in the electron transfer or plant photosynthesis in an organic reaction mechanism comparable to that which has been established for coenzyme Q_{10} in electron transport of mitochondrial systems in animal tissue.

Coenzyme Q_{10} and plastoquinone were reisolated in the Merck labs, and for the first time, their structures determined and members of the group were synthesized. We have proved the presence of coenzyme Q_{10} in the human body, and are now confronted with the question of whether varying body levels bear any relation to health and disease. Since the coenzyme Q story is barely two years old, its true value awaits further research.

It is understandable that the chemistry of vitamins and coenzymes would be elucidated before the chemistry of the corresponding enzymes was revealed, because of the great molecular complexity of enzymes. However, the complete and detailed covalent structure of the first enzyme has now been elucidated. Moore and his associates at Rockefeller have described the exact sequence of all 124 amino acids in ribonuclease. Seventeen amino acids are present, and their frequency ranges from twice for one amino acid to 15 each for 2 amino acids. It is a remarkable achievement.

Whenever I think in terms of biosynthesis within an animal or man's body, I am also conscious of a need to switch on a somewhat different order of thinking to use the facts, and I frequently condition myself for these problems by recalling the time it takes for valine to be incorporated into an iron-containing protein, called ferritin, with the liver of a rat. Ferritin is the storage form of iron in the liver, prior to its change-over to hemoglobin. This is the experiment: Labelled valine is injected into a rat, and the liver is removed within less than two minutes. The valine and the other amino acids are assembled into the entire ferritin molecule,

(Continued on Page 270)



WHAT IS A CONGRESSIONAL INVESTIGATION? THE DRUG INDUSTRY TRIAL–BY PUBLICITY*

by
Senator Alexander Wiley
Wisconsin

These days when the weather in Wisconsin is near freezing and the political climate is quite heated — with the influx of so many prominent primary candidates — I am especially delighted to come and visit you in Iowa, where the weather is not nearly so cold and the political climate not nearly so hot.

Seriously, though, I consider it a special privilege to come and visit with the members of the Pharmaceutical Association. For you are not only the dispensers of medications and the suppliers of numerous sundry items for the American home, you also are the high priests of that original American invention — the corner drugstore.

The British may have their pubs, the central Europeans their coffee houses, the Far Easterns their tea houses, but the American social center is the drugstore — where youngsters and oldsters alike stop to catch their breath, and refresh themselves over coffee, milk shakes and conversation.

Today, I want to talk to you about congressional investigations — a topic that may have seemed somewhat remote and abstract to you a few months ago. Yet now that the Senate Drug Investigation, conducted by the Senate Subcommittee of which I am a member, has made national headlines — you are in the middle of the puddle, too, so to speak.

It is true that these hearings are directed to the drug manufacturers — not the retail pharmacists. Indeed, we all know that you — with your long hours and the large and expensive inventories — are far from being fortune makers. Yet in the minds of some, your fortunes are somehow linked with those of the drug manufacturers. Consequently, you — who come in direct contact with the ailing and unhappy buyer — may be unjustly blamed for drug prices over which you have no control.

Moveover, Congressional investigations should be of concern to you not merely because in this particular instance you yourselves are interested parties. The conduct of Congressional business, like the conduct of our courts of justice, is a subject of direct interest to all citizens — for it is our basic

* Excerpts of address delivered by Senator Alexander Wiley (R., Wis.) ranking Republican on the Senate Judiciary Committee, at the Iowa Pharmaceutical Association's Annual Convention, Cedar Rapids, Iowa, March 8, 1960.

liberties that are at stake. Every case in which justice is miscarried, every investigation in which the investigators are carried away -- opens the door for the abuse of your rights and mine.

What Is a Congressional Investigation?

In the history of mankind none are more outstanding than the great law givers — Hammurabi, Moses, Buddha, Mohammed. Each nation and race has its own claim to divine law. Moses, the Bible tells us, spent forty days and forty nights in the utter solitude of Mount Sinai — and when he descended he carried with him the tables of the law.

But we no longer have Mount Sinai, or the necessary forty days of solitude or a Moses, for that matter. The process of law making, nowadays, is no longer within the domain of a few inspired law givers.

History has shown us that the best law is the one which is based upon the most widespread human knowledge and proper ascertainment of the facts. A rule made by one man is not nearly so good as the rule a man would make after consultation with those who are intimately acquainted with the situation.

The making of laws—which is the business of Congress — is not an easy undertaking. Much raw material, a great deal of work, sweat and care are necessary in order to produce what may appear, to the casual observer, as a small quantity of annual legislation.

During the first session of the 86th Congress, a total of 13,837 bills and resolutions were introduced in the House and the Senate. Of these, only 619 were enacted in the 1st session. Usually only five to ten percent of the bills introduced eventually become law.

The major job of screening legislation belongs to the committees and subcommittees of Congress. Early in the history of the Congress, a special **ad hoc** committee was set up to dispose of each bill introduced into the National Legislature. In the 3rd Congress, there were thus 350 select committees. Now Congress operates through standing committees which have specific subject matter jurisdiction. The so-called "Kefauver Committee" conducting the drug investigation is in fact the Antitrust and Monopoly Subcommittee of the Senate Judiciary Committee.

It has been rightly said that ours is a "government by committees." Probably better than 90% of the legislative groundwork — the research, the testimony on bills, the personal interviews, the special investigations, the debating, the weighing of factors, the compromising and redrafting takes place NOT in the Senate or House of Representatives chambers—but in their workshops, the standing special committees.

In carrying out legislative functions — the investigatory power is a major tool. The power to investigate provides the legislature with eyes, with ears, and with a thinking mechanism. The investigations provide Congress with an orderly means for absorbing the knowledge, experience and statistical data necessary for legislation in a complex democratic society.

Nowhere in the Constitution did the Founding Fathers expressly provide for investigations by Congressional committees. It has been said that like Topsy, the institution of Congressional investigations "just growed." As early as 1792, the House of Representatives called for the first known investigation — to inquire into the failure of a military expedition under Major General St. Clair against marauding Indians in Ohio and Indiana. Ever since, the power of investigation has been considered a necessary adjunct of the legislation.

Of all Congresses, the 82nd Congress earned for itself the title of "The Investigatingest Congress." The 82nd alone conducted 236 investigations in two years and spent about four million dollars on them.

But the present Congress need concede nothing to the 82nd Congress when it comes to investigating. During the first session of the 86th Congress, committees were authorized to spend almost nine million dollars for investigations. This year, the Subcommittee on Antitrust and Monopoly alone— conducting the drug hearings — will receive $425,000 for investigations -- being the largest single appropriation for a probe in Congress.

What has the Antitrust and Monopoly Subcommittee done with this appropriation? It has been investigating the insurance business, steel prices, professional sports, the price of bread and — what you are most familiar with — the drug industry.

The Drug Probe

Concluding his testimony before a recent hearing of the Antitrust Subcommittee, one of the drug company executives thanked the chairman for the opportunity to present his testimony "at the trial." The chairman corrected the witness and called his attention to the fact that this was a "hearing" not a "trial;" to which the latter responded: "I would have had a much easier time before a judge."

In this exchange lies the essence of my concern for the conduct of these hearings. What is the purpose of these hearings? How far can the Subcommittee go? How can we assure that the legitimate interests and legal rights of American citizens and American business not be abused?

The drug hearings were launched after two years of preparation. Ostensibly they are directed to determine whether monopolistic practices exist in the drug industry — and whether new legislation is necessary in order to protect the interest of free enterprise. Commenced on December 7, 1959, the investigation has this far dealt with steroid hormones and with tranquilizers. Antibiotics and vitamins are two of the pharmaceutical products next on the list.

If the purpose of these hearings is to uncover monopolistic practices — the record certainly gives little indication of success. I sat through many of the hearings myself — and I can assure you that I obtained quite an education. Some of the Senators present said they felt that they would be entitled to a medical degree after completing the course. (Interestingly enough nothing was said about diplomas in pharmacy — so you need not fear any Senators applying to join your professional ranks.)

We found out all about detailmen, patents, medical history and pre-history, quacks, executive salaries, stock appreciation, quality controls, new drug applications, government bids, foreign sales, advertising, merchandizing and retailing. By the time the hearing was over — we had covered the whole forty acre lot. What we heard touched little on monopoly. It sounded more like a hearing designed to set up price controls.

What we heard, however, made big, damning headlines the country over. The headlines did not reflect the facts — they were produced by one-sided statistical and accounting manipulations. They announced to the unsuspecting reader the evil doings of the drug makers — who supposedly collected profits of 1000, 2000 and up to 10,000 percents.

This type of manipulated "fact-finding" went on for three sessions. Only on the fourth session, under my insisting cross examination, was the bluff called. There were no 1000 or 2000 percent profits in the industry — there were, instead, profits averaging 13% of sales and dividends to stockholders amounting to five or six percent.

Figures of tremendous profits are easy to manufacture — all you have to do is to select a few isolated examples and present them as proof of the total truth. Yet to judge a total drug operation by profits from one successful product, out of 500, is misleading. And to say that a manufacturer makes an unconscionable profit of several hundred percents — because there is a big markup between the cost of the raw material and the final cost of the product to the consumer — it not overly accurate.

I can assure you that accuracy and truthfulness are not easy to come by — especially when the whole battery of Subcommittee attorneys, economists and investigators are on the other side. I felt it my duty to insist on facts, but my campaign to bring out the facts was not welcome everywhere. One of the biggest newspapers in my own state of Wisconsin — and I don't mean big in terms of broadmindedness or responsibility, I am merely referring to its circulation — was so incensed that it devoted an editorial to me. "Senator Wiley," it said, "should represent more the interests of the people" and again, "Senator Wiley sounds like the spokesman of the drug industry."

I am your guest here this afternoon, and you have been very kind hosts. Yet I feel it is my duty to inform you that I do not consider myself a special advocate for you, the drug industry, or any other special interest. What I have done, and shall do again on your behalf — I shall do in any other case where the rights of the American people — their life, liberty and property — are unjustly and improperly interfered with.

The Uses and Abuses of Investigations

Let me assure you, and my Democratic colleagues on the Subcommittee: I am not

against Congressional investigations. Just to prove how non-partisan this address is, I shall even agree with ex-President Truman who said that "the days are gone forever when Webster, Clay, and Calhoun personally could familiarize themselves with all major matters with respect to which they were called upon to legislate." American society and government have become so complex that Congress can perform its function only by resorting to the investigatory process.

Still, the phenomenal growth in the use of the investigating committees cannot be ascribed alone to this greater complexity. I fear there is more than a kernel of truth in the charge that Congressmen have discovered that participation in well publicized investigations of unpopular causes and unpopular peoples is a shortcut to fame and political fortune. Even before advent of television a host of investigators won national acclaim. With television and radio to publicize hearings, Congressional investigators can now win acclaim even more quickly.

One carefully examining the records of many recent Congressional hearings will discover that investigations have not been used merely to secure information for legislative purposes. They have at times been improperly employed to punish individuals without a judicial trial or to perform in an extra-legal way what Congress cannot do legally.

Some investigations have plainly had the purpose of exposing and punishing individuals by public ridicule and embarrassment. And I can assure you that the abuse of the investigatory process has not been a monopoly of conservative or reactionary witch-hunters. In fact, one of my so-called "liberal" colleagues on the drug investigation, proudly reported a few years back that during one of his hearings (and I quote my illustrious colleague) "the witness under the relentless questioning of the committee's chief counsel . . . broke down and became an old, beaten man. He grimaced, scowled, showed his teeth, mocked his face and stared at the ceiling in anguish. His grammar failed him and he garbled his words." I ask you: is this fact-finding or is this meeting out of punishments?

That Congress can act as a super Grand Inquisition — in the infamous Spanish tradition — has been demonstrated on several occasions. In 1936 the House of Representatives decided to combat the growing power and influence of the Townsend movement. Yet, it was not within the Congessional power to outlaw the movement. Instead, Congress investigated him and probably dealt his cause a severe blow in the ensuing investigation.

It is against such investigatory excesses that we must constantly keep vigil. We must remember, also, that to the proposition that politicians are too inclined to use investigations for personal political gain, there is a corollary that you as a people have been too willing to let them do so.

Although Congressional investigations have been under vigorous attacks for at least twenty-five years — the public has generally approved the investigations while they were in progress. For such investigations give the public, unfortunately, the too easy escape of putting the blame for all public and private difficulties and unhappiness on a few selected scape-goats — whether guilty or not.

Much too often, both the public and its politicians have been willing — in their heat of reforming passion — to sacrifice the principles of government by law for the attainment of desired immediate results. Unwittingly we subscribe to the Machiavellian theory that "the end justifies the means." The prices of drugs are too high, some feel, so if the drug industry is harrassed some good may come. We become so concerned and emotionally upset over the nefarious activities of communists, munitions makers, racketeers or whomever, that it seems much more important to us to meet present evils than to stoutly defend our liberties.

It is at such times that I must stand up and warn: hold off! Several years ago, in discussing this same topic, I warned: "Let us remember — today the victims of legislative usurpation are subversives, gamblers and corrupt officials. Tomorrow they may be Republicans or Democrats, corporate executives, and honest public servants trying to do their duty." This, as you can see, has not been an idle warning.

Conclusion — A Call for Legislative Due Process

The screaming headlines telling of 10,000 percent profit in the drug industry created the impression — whether intentionally or

not — of an industry run by unconscientious profiteers to whom individual suffering is of no concern. Oftentimes, these hearings constituted, in fact, a public trial of the industry — a trial conducted not in the established traditions of due process, but a trial by publicity — where propaganda counts more than facts.

In undertaking such trials the Subcommittee has been doing exactly what the Founding Fathers sought to prevent by setting forth in the Constitution the specific prohibition against bills of attainder. "A bill of attainder," the Supreme Court said, "is a legislative act, which inflicts punishment without a judicial trial . . . . In these cases the legislative body, in addition to its legitimate functions, exercises the powers and office of a judge; it assumes, in the language of the textbook, judicial magistracy, it pronounces the guilt of the party, without any of the forms and safeguards of trial; it determines the sufficiency of the proofs produced whether conformable to the rules of evidence or otherwise."

In this trial by investigation of the drug industry, little attention was paid to the balancing arguments of the defense.

—The public attention was constantly directed to profits on a single product of a single company — without relating these to the many thousands of products produced by the entire industry, or the overall costs of doing business;

—Hardly any reference was made to the high risks of this industry, which in 1958 had to test 114,600 substances before it could produce 40 marketable drugs;

—Little reference was made to the high degree of obsolescence in the drug industry — where one product can have 99% of the market one year, and only 3% two years later;

—No mention was made of the fact that while wages increased 70% between 1948 and 1958, and construction costs 64% — the increase in the wholesale drug prices was 3%only;

—No mention was made of the fact the Soviet Union, in which the profit motive does not exist, produced no single new drug since the Communist Revolution;

—And this being a monopoly investigation, it is surprising that nobody bothered to emphasize that more than 1300 companies are engaged in the manufacturing of prescription drugs — with no one company accounting for as much as 10% of the total sales.

Let me repeat, in concluding, that I believe in Congressional fact-finding. But I am, and shall remain, opposed to trial by investigation. I undertook to guard against abuses of legislative investigatory powers in the drug hearings. I feel it incumbent upon myself to continue doing so — in this or any other investigation. I shall constantly call the attention of my colleagues to the need for legislative responsibility, due process, vigilance and self-restraint. Investigating committees must stay within the boundaries of their jurisdiction, and they must pursue fact, not fancy.

The Congressional investigator has tremendous powers. The courts have been reluctant to interfere with the exercise of legislative investigations. The Supreme Court has held that "Within the realm of legislative discretion, the exercise of good taste and good judgment in the examination of witnesses must be entrusted to those who have been vested with authority to conduct such investigations." We, members of Congress, are therefore to a large degree our own policemen.

But I ask you: If the policeman himself scoffs the law, who is there left to protect the basic liberties of American citizens and business?

As you get ready to adjourn and to return to your own communities — businesses — drugstores, I want to carry with you one final thought: Let these trials of the drug industry not be in vain. Let us all utilize this opportunity for the constant self-searching and stock-taking that are necessary for a society that believes in progress. I have pledged before you to tend to the honest and unbiased execution of the business of Congress. Yet this does not relieve you of your responsibilities in this matter. As long as thousands of people in this country — old, indigent and sick — remain unable to pay the high prices of drugs, it is your moral responsibility — and the moral responsibility of all others connected with the health and welfare of the nation — to continue in your efforts to make medical care and attention available to all those that desire them — regardless of wealth and station.

We believe in free enterprise. But free enterprise does not mean selfishness — to me it means public cooperation, widespread moral responsibility and the constant striving for private and public improvements.

PHARMACY PAPER—

(Continued from Page 264)

which has a molecular weight of about 400,000, in about two minutes. Secondary processes, like coiling, disulfide bond formation, etc., appear to take a little longer than the assembly of hundreds or thousands of amino acid residues into a protein molecule, but even these rate-determining stages do not prevent the whole process from being completed within a few minutes. By comparison, organic chemists require many months today to achieve the synthesis of a peptide containing only 10 amino acids. More and more knowledge about the mechanism of biosynthesis will give us the theoretical insight to speed-up achievement.

It is clear that I have necessarily simplified some of the points for brevity and so that principles may be considered. Research in nutrition at the enzyme level, with the experimental model, and at the clinical level involves numerous difficulties, because of the many variables associated with complex biological systems. The scientist must take the difficulties and complexities into full account as he pursues crucial leads, but he should not be overwhelmed by the complexities. Planned research can succeed even when the pathway is not clear, and targets can be reached in spite of difficulties.

I have now come nearly to the end of this address. The nature of certain vitamin discoveries in terms of sequence has been described. I have attempted to analyze how the rate of discovery might be accelerated. The scientist can accept an important and difficult challenge in planned research. He can use every new and modern technique. He can use an experimental animal which is a valid model for the human problem. He can depend less upon empiricism and more on theoretical insight.

It is apparently more difficult to integrate discoveries in different disciplines than it is to hasten discovery in a given discipline. Separated discoveries may be pulled together and gaps of time reduced by a single scientist, if he has an adequate breadth of knowledge. It is more likely, though, that integration will result from the research of the requisite group.

The requisite group is defined as those scientists from essential disciplines who work intimately together on a project. Much has been said about group or team research, but the formation and daily operation of a productive group is not a simple matter. Each scientist must have some appreciation of the other essential disciplines. No essential discipline can be omitted from the group; otherwise, the group is not requisite for the project.

In nutrition, a requisite group can consist of the organic chemist on molecules, the biochemist on enzymatic mechanisms, the biologist on animal models and the clinician on exploratory medical investigation.

Such a requisite group working on planned research toward specific objectives should have the best chance of integrating discoveries and should constitute the avant garde for future advances in vitamins and nutrition. This is my belief.

Plan To Attend the Annual Convention of the South Dakota State Pharmaceutical Association, June 19, 20, 21, in Aberdeen, South Dakota

PRESIDENT'S PAGE



Fellow Pharmacists:

May I extend to you my personal invitation to attend the 74th Pharmaceutical Convention in Aberdeen starting June 19th. As prescribed by law, this is the annual business meeting of your association. Attendance the past few years has been good and it is necessary to maintain a high attendance record if we are to serve the best interests of Pharmacy.

A varied program of social and business events has been planned and I am sure you will find them to your liking. An outline of events may be found in another section of this issue. Look it over, and I am sure you will agree the local committees are planning a well organized meeting. The Sunday events are unique and different and should be enjoyable. Monday's schedule calls for brief and varied business sessions morning and afternoon with the annual Association Banquet in the evening. You should plan and stay for the business session Tuesday morning. A speaker of national prominence is planned.

I know it may seem difficult to many of you in one-man stores to get away. The simplest solution is to stay home, but I believe, if you give it serious consideration, a way might be found that you can be gone from the store at least one day. Most of you have competent help to take care of normal business, and possibly arrangements could be made to close the prescription department for a day. Most places are closed on Sunday and with announcement could be partially closed on Monday. Think it over. We in Aberdeen would like you to be our guests.

Willis Hodson
President

THE MONTH IN WASHINGTON

Defeat of the Forand bill in the House Ways and Means Committee highlighted developments on the issue of legislation to provide more Federal health care for the aged.

The Committee voted 17 to 8 on March 31 to shelve the Forand bill which would increase Social Security taxes to provide surgical benefits and limited hospitalization and nursing home care for Social Security beneficiaries, except the disabled.

However, the issue remained very much alive.

The Eisenhower Administration and Congressmen were separately considering various alternative proposals to provide additional health care for the aged, but outside the Social Security system. And the action of the House Committee did not rule out the possibility of Forand-type legislation being brought up in the Senate later this session.

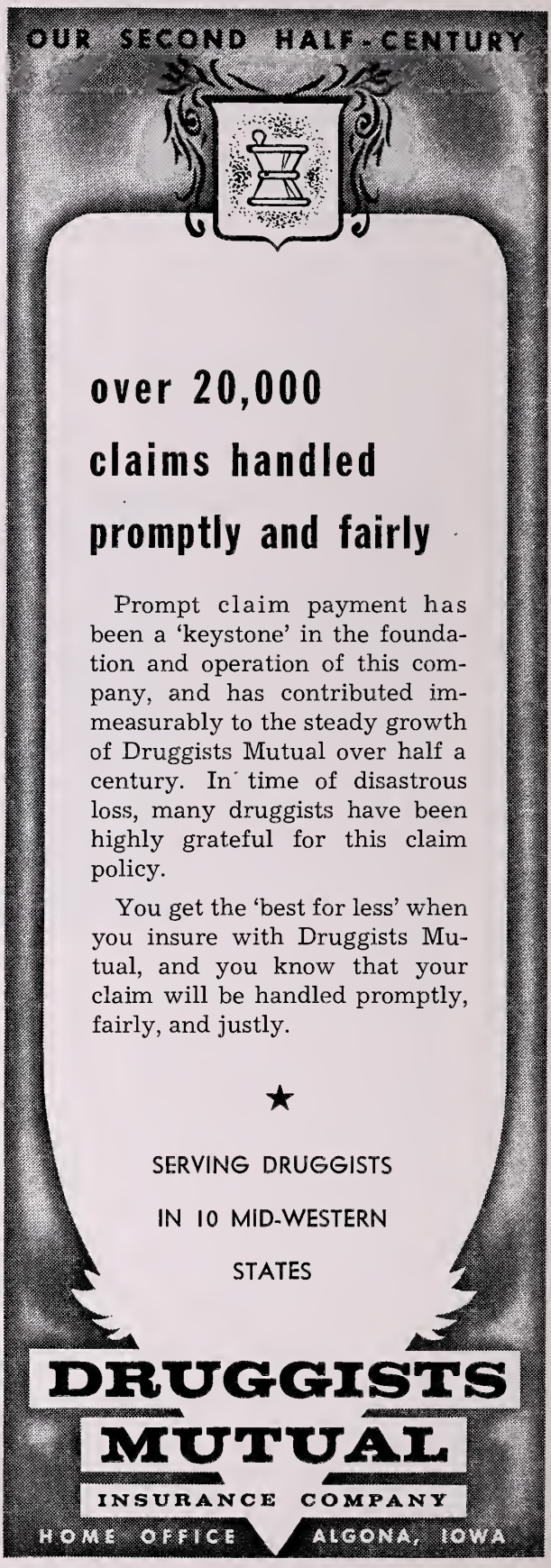
The House Committee vote against the Forand bill came during the drafting of an omnibus measure of revisions in the Social Security program. The Committee voted tentatively to bring physicians under Social Security.

The Committee also favored elimination of the requirement that a disabled person must be 50 years or older to be eligible for Social Security payments.

Arthur S. Flemming, Secretary of Health, Education and Welfare, said the Administration was considering a plan for Federal payments to the states to help needy old persons buy private health insurance on a voluntary basis. He said he hoped the plan would be ready for submission to Congress by late April.

Sen. Jacob K. Javits (R., N. Y.) and seven other Republican Senators introduced similar legislation in the Senate. The bill called for the Federal government and states jointly putting up about $1 billion a year to help persons 65 years and older, and their spouses, to buy private health insurance. The coverage would include physicians' care in home and office, diagnostic services, hospitalization and nursing home care.

Another plan being considered by some other members of Congress would broaden the Federal-State public assistance program to provide more health care for needy older persons.





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74th CONVENTION JUNE 19-21

Aberdeen will host the 74th annual convention of the South Dakota State Pharmaceutical Association, June 19, 20 and 21.

The local committee under the leadership of President Willis Hodson has planned a varied program of interest to all.

Business sessions and convention headquarters will be at the Alonzo Ward hotel. The banquet and dance will be held at the Aberdeen country club on Monday evening.

Registration for the convention will start Sunday afternoon, June 19 with the afternoon being devoted to various sporting events.

The Allied Travelers Party, Sunday evening, will include an outdoor barbecue at Wylie Park followed by a stage show at the Legion Hall.

The business sessions on Monday will include the president's address and reports of association officers. The members will hear talks on Public Relations, Accounting and Insect or Weed Control. The Wholesalers Luncheon will be held Monday noon.

Tuesday sessions start with the veterans breakfast, followed by the final business sessions. Adjournment is expected about noon.

In announcing the program for the convention President Hodson stressed the need to make hotel reservations early to assure satisfactory accomodations.

PHARMICS HEAR TALK ON MENTAL HEALTH RESEARCH

Students, faculty and alumni of the Division of Pharmacy, at South Dakota State College heard a talk on Mental Health Research by Dr. James Gilbert of Aberdeen, April 11.

Dr. Gilbert's visit was sponsored by the State College Tau chapter of Rho Chi, national honorary pharmaceutical society.

He is head of the Committee on Education of the South Dakota Mental Health Association and is assistant director of the Northeast Mental Health Clinic in Aberdeen. In 1958 he was chief of the Mental Health Division of the Department of Health and Welfare of Canada. Gilbert received his certificate in psychiatry in 1955 and has served as a lecturer in psychiatry at the University of Ottawa, Canada.



Plasma Protein Bound Iodine In The Diagnosis Of Thyroid Dysfunction

by
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The determination of plasma protein-bound iodine is generally considered to be the most reliable single laboratory test for the diagnosis of thyroid disorders. It can be performed where facilities for radioiodine uptake studies are unavailable and is particularly useful in patients who are poor subjects for basal metabolic tests. It also provides a method for following the progress of patients treated with anti-thyroid drugs, thyroxine, dessicated thyroid, radioactive iodine or surgery.[1]

Normally, approximately 70 percent of the iodine present in the blood represents the thyroid hormone, thyroxine. Some 10 to 20 percent consists of inorganic iodine while the remainder is made up of triiodothyronine, the highly active metabolite of thyroxine, and various other organic iodinated compounds that have not been fully identified. Thyroxine and certain other organic iodide-containing compounds are loosely bound to plasma protein and constitute the plasma protein-bound iodine.[2]

The normal range for plasma protein-bound iodine in human beings is generally considered to be from 4.0 to 8.0 ug/100 ml. Values above eight are usually found in hyperthyroidism; values below four are usually found in hypothyroidism. However, in a

small proportion of patients with hypothyroidism or hyperthyroidism, the plasma protein-bound iodine falls in the normal range. Elevated protein bound iodine levels without evidence of hyperthyroidism may be the result of an increased amount of thyroxine-binding protein in the blood. This occurs during pregnancy and the puerperium, in the newborn, with estrogen administration, and in certain liver disorders.[3] Likewise low levels of protein bound iodine without evidence of hypothyroidism may be associated with a decrease in the amount of thyroxine-binding protein, as in nephrosis.[4]

In certain conditions such as following radio-iodine treatment for hyperthyroidism, in thyroiditis and in some congenital familial goiters, the nonhormonal plasma protein-bound iodine may be greatly increased due to the release into the blood stream of relatively large amounts of metabolically inactive intermediary products of thyroxine synthesis. In these conditions, estimates of butanol extractable iodine as developed by Man and her associates[5] may give a more reliable estimation of thyroid activity since the thyroxine is selectively extracted by this procedure.

Spuriously high protein-bound iodine levels may follow the use of various iodine-containing drugs. Such compounds include iodine-containing radiopaque dyes used in angiocardiography, cholecystography, urography, bronchography, or myelography; iodinated amebicides (Chiniofon, iodochlorhydroxyquin and diiodohydroxyquin); penicillin G diethylaminoethyl ester hydriodide (Neo-Penil); iodothiouracil, Lugol's solution, tincture of iodine, and syrup of hydriodic acid. Certain vitamin and cod liver oil preparations may also be rich in iodine while barium sulfate may give rise to elevated protein-bound iodine due to contaminating iodine. Sulfobromophthalein (Bromsulphalein) dye, though not containing iodine, also causes elevation of plasma protein-bound iodine. While the butanol extraction procedure will obviate erroneously high levels of protein-bound iodine following the use of inorganic iodine it is of no value in eliminating extraneous organic iodine-containing compounds which appear in the plasma following the use of organic iodide preparations.

The very high amounts of iodine that may be present in the plasma following the administration of iodine-containing substances can cause cross contamination amongst other samples during the analytical procedure. For this reason, it may be desirable to run a screening test to detect the grossly contaminated specimens.[6] Contamination may also arise from the use of syringes and other apparatus improperly cleaned after being in contact with iodine-containing compounds. Therefore, the area in which the tests are run and the equipment used should be isolated from all possible sources of iodine.

Following the administration of triiodothyronine, (Cytomel) the protein-bound iodine level does not rise and may even fall. The failure of the drug to elevate the protein-bound iodine level is due to the small amount of drug used and its rapid escape into the tissues while the fall often noted with its use is due to depression of endogenous thyroxine formation.

Mercurials and certain other heavy metals may cause spuriously low protein-bound iodine values if distillation methods are used in analysis but not if incineration methods are employed.

Since the amount of protein-bound iodine normally present in the blood is only a few hundreths of a microgram per ml., very sensitive analytical methods must be employed. Many of the most widely used procedures are based on the catalytic effect of iodine in the reduction of ceric ions by arsenious acid. Preliminary steps involve the precipitation of the blood proteins and the digestion of the organic matter. This latter step may be accomplished by acid distillation,[7] by dry ashing in alkali[8] or by digestion with chloric acid.[9]

MATERIAL AND METHOD

Duplicate analyses of plasma protein-bound iodine have been done in this laboratory on specimens obtained from well over 1300 individuals. The material includes 80 specimens from presumably euthyroid individuals (medical students, faculty and hospital personnel), 725 specimens submitted for diagnostic purposes by physicians in the southeastern part of South Dakota and southwestern part of Iowa, 420 specimens from patients at Yankton State Hospital, 47 speci-

mens of cord blood, 38 specimens from post-partum patients and 9 specimens from 2 day-old-babies. Repeated analyses at approximately weekly intervals were done for 4 to 8 weeks on 10 patients at Yankton State Hospital. In addition, repeated analyses have been done on ten patients from 20 weeks to 2 years after treatment with 3-7 millicuries radioactive iodine for hyperthyroidism.

The protein-bound iodine was determined by the technique described by Grossman and Grossman[10] a modification of Barker's alkali ashing procedure. The method was modified to the extent that 15 x 125 mm test tubes were used in place of 50 cc centrifuge tubes, and discarded after being used once and the samples were incinerated in the muffle furnace at 600° for 4 hours. The electric tube buzzer was found to be more convenient for mixing than glass rods or the "flipping" technique.

RESULTS

The results of the analyses for protein-bound iodine in the control series, the diagnostic series and in the State Hospital patients are summarized in Figs. 1 and 2 and in Table I. Table I also includes a summary of the analyses on the specimens of cord and post partum bloods. The State Hospital patients have been separated into two groups, depending on whether the specimens were collected prior to or subsequent to the use of iodized salt in this institution.[11]

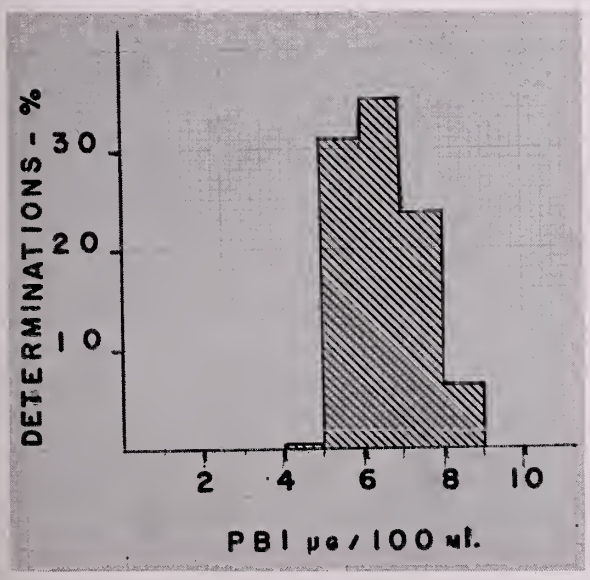


Fig. I. Distribution of protein-bound iodine values in 80 presumably euthyroid individuals.

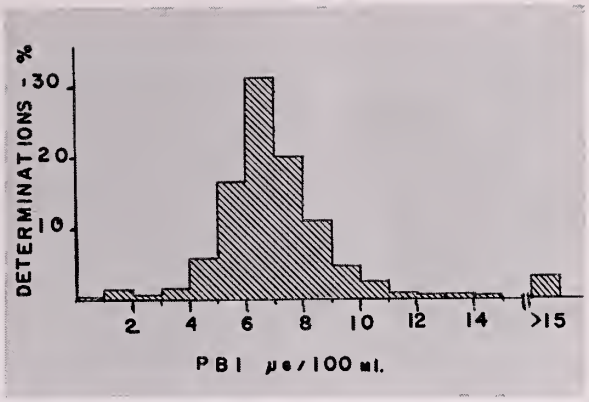


Fig. II. Distribution of protein-bound iodine values in 725 patients.

TABLE 1

SUMMARY OF VALUES FOR PROTEIN BOUND IODINE

	Number	Median	Mean
Control Series	80	6.4	6.4 +/ – 0.92*
Diagnostic Series	703	6.7	6.7 +/ – 1.88
State Hospital Patients (before iodized salt)	170	5.7	5.8 +/ – 1.38
State Hospital Patients (after iodized salt)	248	7.1	7.2 +/ – 1.72
Cord Blood	38	8.7	8.8 +/ – 1.5
Post Partum Patients	38	8.9	9.2 +/ – 2.1

* Standard deviation.

The mean protein-bound iodine value for the control series is 6.4, the standard deviation being 0.92. The mean value for the diagnostic group was 6.7 when values over 15 were omitted. This was done since in most instances the high values proved to be due to exposure to iodine-containing compounds. The standard deviation in this group was 1.88. The mean value for plasma protein-bound iodine in the State Hospital patients prior to the use of iodized salt was 5.8 +/ – 1.38. Subsequent to the introduction of iodized salt the means for State Hospital patients was 7.2 +/ – 1.72.

The results of the repeated determinations of protein-bound iodine in the 10 State Hospital patients are summarized in Table 2.

The mean plasma protein-bound iodine of

TABLE 2
RESULTS OF REPEATED ANALYSES

Patient No.	No Determinations	Mean + – standard deviation of the mean	Range
1	8	7.5 +/ – 0.37	6.4 – 9.2
2	8	6.5 +/ – 0.46	5.0 – 9.0
3	7	4.4 +/ – 0.21	4.1 – 5.5
4	6	8.8 +/ – 0.34	7.5 – 10.0
5	6	8.4 +/ – 0.31	7.5 – 9.6
6	5	5.4 +/ – 0.40	4.3 – 6.7
7	5	7.9 +/ – 0.50	6.1 – 8.9
8	5	6.7 +/ – 0.50	5.8 – 8.5
9	4	5.4 +/ – 0.16	5.0 – 5.8
10	4	7.0 +/ – 0.36	6.0 – 7.7

38 specimens of cord blood was 8.8 +/ – 1.5 ug/100 ml. The mean values of the protein-bound iodine of blood drawn from mothers of these infants within 48 hours after delivery was 9.2 +/ – 2.1 ug/100 ml.

In the 9 infants in which analyses were done on cord blood and at 48 hours after delivery, the value obtained at 48 hours was appreciably higher. The mean values were 7.7 and 11.5 respectively. Simultaneous determinations of serum glutamic-oxaloacetic transaminase showed no apparent correlation between the two indices (Table 3).

In 7 of the 10 patients treated for hyperthyroidism, the protein-bound iodine fell to normal or subnormal values in 6 to 9 weeks, coincidental with clinical improvement of the hyperthyroidism. In 3 of the 9 patients with an initial protein-bound iodine of less than 15 ug/100 ml., an elevation of from 2 to over 4 ug/100 ml. was noted within the first four weeks of therapy with no apparent increase in the manifestations of their hyperthyroidism. In the four patients whose protein-bound iodine fell below 4 ug/100 ml. after therapy, a normal level was subsequently obtained within 25 weeks. In one patient, the value, initially over 15 micrograms per 100 cc., even 24 weeks after treatment had not fallen lower than 10.8 and yet the patient maintained a satisfactory remission. Two elderly patients with severe congestive heart failure showed definite clinical improvement though their plasma protein-bound iodines initially 11.5 and 14.6, never fell below 9.4 and 10 ug/100 ml. respectively. Both patients

TABLE 3
PROTEIN-BOUND IODINE AND SERUM TRANSAMINASE (S.G.O.T.) VALUES IN CORD BLOOD AND 2 DAY OLD INFANTS

PATIENT	CORD BLOOD		2 Days	
	S.G.O.T.	P.B.I.	S.G.O.T.	P.B.I.
1	14	5.1	46	12.0
2	38	6.7		14.0
3	30	7.1	80	10.6
4	83	7.4	54	9.3
5	39	7.5	39	11.9
6	39	8.1	48	10.5
7	27	8.3	45	11.3
8	21	8.9	21	11.4
9	51	10.1	52	12.7
Mean	38	7.7	48	11.5

died before their hyperthyroidism could be brought under complete control.

DISCUSSION

The protein-bound iodine values in this diagnostic series form an essentially normal distribution (Fig. 2) around the modal value of 6 ug/100 ml. Since in many instances, particularly in the diagnostic series, the thyroid status of the individual was not known, it is not possible to determine the limits of normal from this study. Nevertheless it would appear that the upper limit should probably be at least 8.5 ug/100 ml. rather than the more generally accepted 8.0 ug/100 ml. Five out of 80 obstensibly euthyroid individuals had values ranging from 8.0 to 8.5 ug/100 ml. and there was no evidence of hyperthyroidism in most of the State Hospital patients with values in that range. Astwood and his associates have also concluded, on the basis of studies in Boston, that a value in excess of 8.0, possibly 8.5, might provide a better estimate of the upper limit of the normal range.

Values below 4 ug/100 ml. should probably be considered to be abnormal since none of the euthyroid group and only 3% of the samples submitted for diagnosis and 1% of those from the State Hospital subsequent to

the use of iodized salt were in this range. It is of interest that some 6% of the samples obtained from State Hospital prior to the use of iodized salt fell below 4 ug/100 ml.

The mean value of protein-bound iodine for patients at State Hospital prior to the introduction of iodized salt is lower than the mean value observed subsequent to the introduction of iodized salt ($P < .001$) and also than that for the diagnostic series ($P < .001$). It is probable that the difference is due to the iodine deprivation. The mean of the protein-bound iodine values for State Hospital patients subsequent to the introduction of iodized salt is higher than that observed for the diagnostic series ($P < .01$).

The results of the repeated determinations on the same patients confirm the observations of other investigators that day to day fluctuations in protein-bound iodine may be of considerable magnitude (1b, 12). The data emphasize that a single determination of protein-bound iodine should not be relied upon to define the thyroid status of the individual.

The relatively high values of protein-bound iodine found in cord blood, infants and in post-partum patients have been noted by other investigators. The elevated values are now believed to be due to an increase in the thyroxine-binding capacity of plasma protein. It has been suggested that there may be an association between failure of the protein-bound iodine to rise during pregnancy and abortion (3a).

The results of the protein-bound iodine determinations following therapeutic doses of radioactive iodine illustrate the wide fluctuations that may occur during the first three to six months after therapy. The rise in protein-bound iodine that occasionally follows shortly after ingestion of the radioiodine is believed to be due to the release of non-calorigenic thyroglobulin from follicles damaged by radiation.[13] A temporary fall to subnormal levels is not unusual during the first few months after therapy, and usually requires no treatment. Permanent hypothyroidism develops in some 5 to 10% of patients treated with radioiodine.[14]

SUMMARY AND CONCLUSION

The results of over 1300 determinations of protein-bound iodine have been reviewed. A mean value for euthyroid individuals was found to be 6.4 + - 0.92 ug/100 ml. A normal range of 4 to 8.5 ug/100 ml. is proposed. The values found in Yankton State Hospital patients were significantly lower prior to the introduction of iodized salt than those found subsequent to the use of iodized salt.

The determination of protein-bound iodine is a useful laboratory aid for the diagnosis of thyroid function. It is emphasized however that non-calorigenic iodine-containing compounds may give spuriously high values. Furthermore, the value in part reflects the thyroxine-binding capacity of the blood and therefore may not represent the thyroxin available to the tissues.

1-Studies carried out during the tenure of a Lederle Medical Faculty Award in the Department of Physiology and Pharmacology, University of South Dakota School of Medical Sciences. **Acknowledgements** Plasma from cord blood, postpartum mothers and infants was kindly furnished by Dr. C. A. Johnson, Lemmon, South Dakota, Dr. Mary Price, Armour Clinic, Armour, South Dakota and Dr. W. F. Stanage, Yankton Clinic, Yankton, South Dakota.

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Current Management Of The Toxemias Of Pregnancy

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The toxemias of pregnancy have been the leading cause of maternal death in this country for over a decade. Nevertheless, the decline in mortality from these diseases has paralleled the marked decrease in overall maternal fatality which has occurred during this period, and eight of ten women who would have died ten years ago as a consequence of their toxemia, currently survive. The reduction in deaths from this cause has not been due to a decreased incidence of toxemia or to the use of specific drugs. It has been accomplished by empiric management which, in essence, is preventive obstetrics. This management is based upon the concept that the toxemias of pregnancy are progressive diseases; that the imminence of potentially fatal maternal and fetal complications are usually reflected in the clinical course of these disorders; and that these maternal complications can usually be prevented, and many viable infants can be salvaged by terminating the pregnancy at the opportune time. Hence, the gravid individual with hypertension, proteinuria, and edema becomes an obstetric emergency many days before she develops eclampsia, has an abruptio placenta, evidences renal failure, or experiences the intrauterine death of a viable fetus.

A knowledge of the clinical course of the toxemias of pregnancy is essential for the effective application of this preventive management. There are two major groups of toxemias. These groups differ in their physiologic abnormalities; in their pathologic findings; and in their clinical pattern.

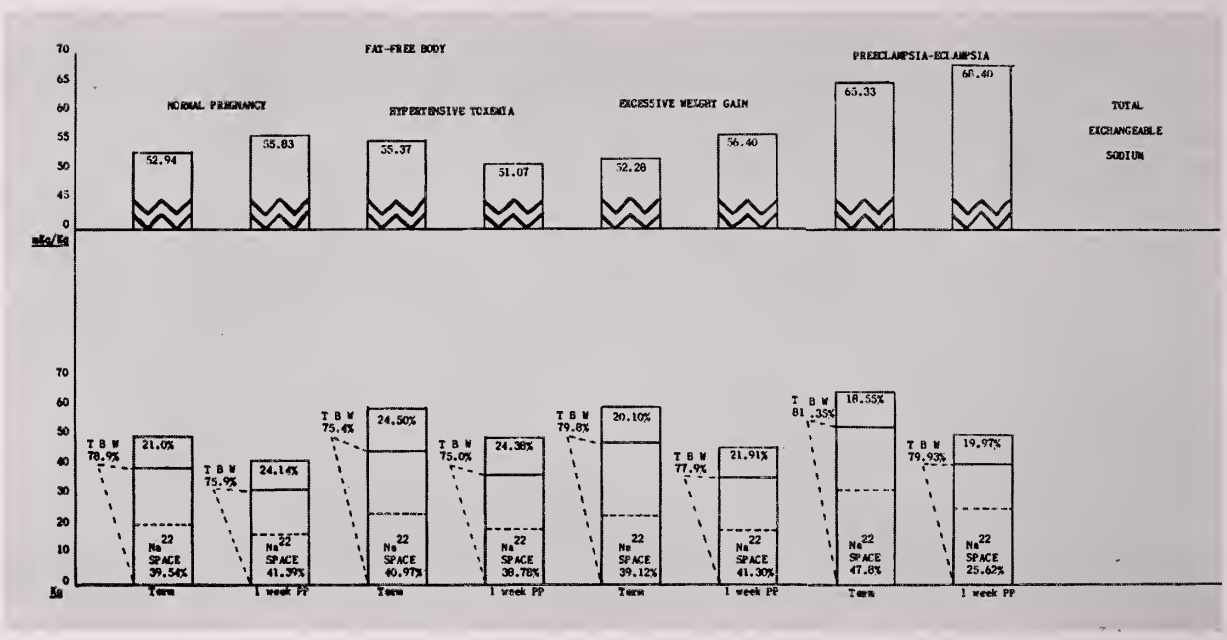
Preeclampsia-eclampsia is initiated and maintained by the pregnant state. Hence, it is peculiar to pregnancy. It is characterized by profound biologic changes which progress during pregnancy and regress following delivery. Residual damage and a recurrence of this entity are rare. Hypertension, proteinuria and edema are the result, not the cause of this disease. The convulsive state to which the term eclampsia is applied is but one manifestation of the severe form of this disorder. Preeclampsia and eclampsia are, therefore, one disease; and eclampsia, which has a 7 per cent maternal mortality rate and a 40 per cent fetal mortality rate, is the major complication of this entity.

There is an abnormal water and electrolyte metabolism in this disease. These individuals store water and salt. An excessive weight gain occurring as early as the 20th week of gestation is the first manifestation of this salt and water retention. Hence, preeclampsia begins in the second trimester of pregnancy, although the triad of hypertension, proteinuria and edema is limited to the last 16 weeks of gestation except when this disease is initiated by a hydatidiform mole. The magnitude of the water and sodium retention which occur in these individuals is illustrated by Figure 1, which relates total body water and total exchangeable sodium to fat-free body weight. In contrast with gavid individuals with chronic hypertensive disease, patients with preeclampsia-eclampsia are unable to excrete an acute salt load at the normal pregnant rate. It is not known whether this abnormality is due to a primary renal fault, or whether it is mediated by the extrinsic factors which influence the renal excretion of water and electrolyte.

The pathologic findings in preeclampsia are nonspecific with the possible exception of the renal lesion which is present in this entity. The essential morphologic change in preeclampsia-eclampsia is situated in the glomerulus. All of the glomeruli are involved. They are swollen, ischemic and have thickened capillary walls. This finding has been consistently present in the renal biopsies which we have obtained from individuals with preeclampsia-eclampsia. If is reversible, and there is no evidence to support the view that organic renal disease is a sequela of this entity. Because of the limitations of light microscopy this lesion could only be placed in the nonspecific category of chronic membranous glomerulonephritis although previous investigators had attributed it to epithelial, endothelial or interstitial cell proliferation with or without an increase in the cytoplasm of the cells in question and with or without a thickening of the basement membrane.

It was apparent that the electron microscope was required to determine the precise morphology of this lesion, and another series of renal biopsies was obtained. It was possible to compare this material with biopsies which were obtained by the medical service from nonpregnant individuals with renal disease. In every instance where the toxemic glomerular lesion was present on light microscopy, ultramicroscopy disclosed the presence of a consistent, unique lesion. The capillary lumens were narrowed due to an increase in endothelial cell cytoplasm, which had a variety of changes including vacuolation, droplet formation and the presence of cytoplasmic strands and particulate matter. There was no celular proliferation; the basement membranes were normal; the epithelial cells were not primarily involved; there were no consistent vascular changes; and the tubular findings were nonspecific. The serial biopsies which were obtained from one individual with severe preeclampsia are of unusual interest. The characteristic endothelial cell changes, present at delivery were regressing on the 11th postpartum day. A third biopsy was obtained from this patient on her 30th postpartum day. At this time there were no renal abnormalities.

This lesion is but one manifestation of the multiple, reversible, biologic changes which occur in preeclampsia-eclampsia. Its etiology and its relationship to the abnormal water and electrolyte metabolism which obtain in this disease are unknown. Nevertheless, these cytoplasmic changes suggest that there



Figue 1

Normal gravid and toxemic patients. Total body water and total exchangeable sodium related to fat-free body weight. Individuals with preeclampsia-eclampsia evidence a marked increase in total exchangeable sodium.

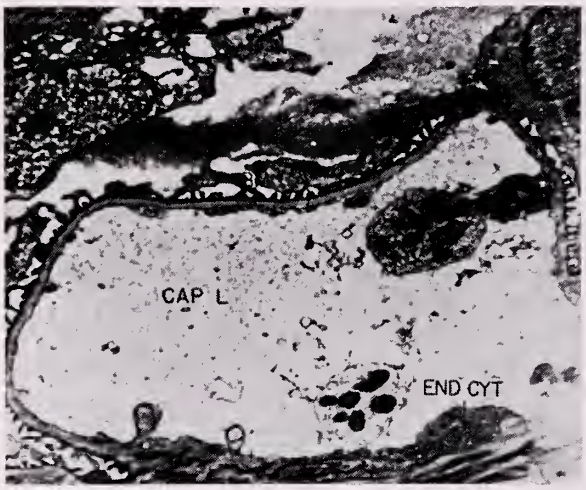


Figure 2A

Cross section of normal glomerular capillary. The capillary luemen is wide and the endothelial cell cytoplasm is scant.

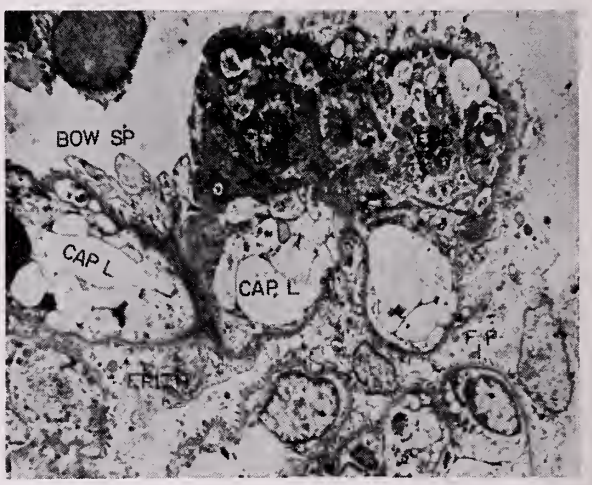


Figure 2B

Cross section of glomerular capillary in preeclampsia. The capillary lumen (CAP L) is markedly narrowed due to an increase in endothelial cell cytoplasm. This lesion is reversible, and there is no evidence to support the view that organic renal disease is a sequela of this entity.

Spargo, McCartney and Winemiller

is a profound disturbance in the metabolism of the glomerular capillary endothelial cell in preeclampsia-eclampsia, and it seems reasonable to attribute the decreased renal blood flow, the decreased renal plasma flow and the decreased glomerular filtration rate which occur in preeclampsia-eclampsia to the narrowed glomerular capillary lumens which are produced by this endothelial cell lesion.

Individuals with essential hypertension and specific renal disease comprise the second major group of toxemias. The pregnant state frequently exacerbates but does not initiate these diseases. These abnormalities persist

after delivery, and a recurrence of the toxemia is subsequent pregnancies is the rule. Marked disturbance in water and electrolyte metabolism are infrequent in this group. Late abortion, intrauterine fetal death occurring between 30 and 32 weeks gestation, severe toxic abruptio placenta occurring early in the last trimester of pregnancy, and the delivery of premature and term infants who were markedly underweight for their gestational ages are characteristic occurrences in this group of individuals. Abruptio placenta is the most frequent maternal complication associated with hypertensive renal vascular disease. Its incidence is three per cent in the mild form and six per cent in the severe form of these diseases. It is accompanied by a 5% maternal mortality rate and a 50% fetal mortality rate. Afibrinogenemia, renal cortical necrosis and pituitary necrosis contribute to the mortality inherent in this complication.

Serious maternal and fetal complications are not inevitable concomitants of hypertensive renal vascular disease. They are limited to 40% of this group who evidence a deterioration in their renal vascular status. This frequently occurs early in the last trimester of pregnancy and is manifested by sudden increases in proteinuria and hypertension which are accompanied by varying degrees of edema. It is widely held that this phenomenon is due to a superimposed preeclampsia. It has been our experience that the majority of these patients do not have the profound biologic changes which occur in preeclampsia. Hence, we believe that superimposed preclampsia rarely occurs, and that an exacerbation of these patients' renal vascular disease is the most frequent cause of these clinical manifestations.

It is frequently difficult to differentiate preeclampsia and chronic hypertensive disease on clinical evidence alone. Nevertheless, we believe that the criteria outlined in Table 2 enable us to make this distinction with an approximate error of 15%.

The definitive treatment of the toxemias of

TABLE 1

INCIDENCE OF ABRUPTIO PLACENTA
CHICAGO LYING-IN HOSPITAL

	Percent
Non-toxemic Patients	0.8
Preeclampsia	
Mild	1.5
Severe	1.0
Hypertensive Disease	
Mild	3.0
Severe	6.3

TABLE 2

CLINICAL DIAGNOSIS
(MAXIMUM ERROR - 15%)

	Preeclampsia	Chronic Hypertensive Disease
HISTORY OF HYPERTENSIVE DISEASE	none	frequently present
EVIDENCE OF ORGANIC DISEASE	none	+ -
RETENTION OF WATER AND ELECTROLYTE CHARACTERIZED BY EXCESSIVE WEIGHT GAIN	marked	slight
ONSET	after 24 wks. usually follows excess weight gain	before 24 wks. no relation to weight gain
POSTPARTUM	disappears - 6 mo.	persists after 6 mo.
SYSTOLIC BLOOD PRESSURE	not in excess of 190	often over 190
AGE	15 - 29	30+
PARITY	primipara	multipara
RECURRENCE IN SUBSEQUENT PREGNANCIES	rare	usual

pregnancy is termination of the gestation at the opportune time. All other therapeutic measures are palliative and temporizing. This nonspecific therapy is employed in the mild and moderate forms of these diseases with the hope of retarding their rate of progress until delivery of a surviving infant is probable. A secondary objective of this palliative therapy is to prolong the gestation to the point where delivery from below can be achieved. The inherent severity of the processes, rather than the type of palliative therapy is the critical factor mediating the accomplishment of these objectives. The status of the patient with any type of toxemia can deteriorate rapidly. Hence, frequent observation and repeated evaluation are of the utmost importance in the general management of the toxemias of pregnancy.

Although we have routinely employed a salt poor diet and diuretic agents in the prophylaxis of preeclampsia, our incidence of this disease has remained unchanged during the past quarter of a century, and we are unable to cite a single case in which we could be certain that preeclampsia had been prevented by this therapy. Nevertheless, we attribute the decrease in our incidence of severe preeclampsia which has occurred during this decade to these valuable measures. The new diuretic drugs are potent agents. Patients whose toxemia has been complicated by the injudicious use of these drugs are currently being referred to us. These individuals have oliguria, hyponatremia and hemoconcentration which respond readily to electrolyte replacement.

The antihypertensive drugs have proven to be merely palliative agents. Although the blood pressure can usually be controlled by these drugs, the underlying process is not reversed by them. Hence, one should not derive a false sense of security from the lowered blood pressure, and ignore the implications of an increasing proteinuria, a progressive weight gain, a decreasing urinary output, or other indications of a progression of these diseases. It is our belief that the individual whose blood pressure remains at a level sufficiently critical to necessitate the employment of antihypertensive drugs, should have her pregnancy terminated promptly, if the infant is viable.

Although the hypotensive drugs are not a panacea for the toxemias of pregnancy, they are of definite value for the prevention and for the management of hypertensive crises and for the prophylaxis of cerebrovascular accidents. They afford an effective means for lowering the blood pressure without resorting to large amounts of sedative and narcotic drugs which have an adverse effect upon the fetus. They are particularly suitable for the management of the individual who experiences a sudden rise in systolic blood pressure to levels of 180 or more. These rises frequently occur during labor and in the immediate postpartum period. These individuals are potential candidates for a cerebrovascular accident and a rapid lowering of the blood pressure to moderate hypertensive levels which can be accomplished readily by these agents, is desirable.

Intramuscular Reserpine combined with an intravenous drip containing Apresoline and Unitensen are usually effective for this purpose. It is our practice to administer 2.5 mg. to 5 mg. of Reserpine intramuscularly. This agent is not repeated more frequently than every 8 hours. An intravenous drip, containing 20 mg. of Apresoline and 2.5 mg. of Unitensen in 500 c.c. of 20% glucose, is started at the rate of 15 drops per minute. The rate of flow is adjusted to maintain the blood pressure at moderate to low hypertensive levels. Continuous blood pressure recordings are made until the pressure is stabilized, and subsequent determinations are made at 15 to 30 minute intervals. Although this drip may be maintained for 24 hours or longer, we usually discontinue it when the hypertensive crises has been resolved and employ intramuscular injections of 0.25 mg. to 0.5 mg. of Unitensen to maintain the blood pressure in the desired range. As an alternative — Apresoline alone may be administered by continuous drip or intermittent intravenous injection.

A solution of 20 mg. Apresoline in 20 c.c. of 5% dextrose is employed when the intermittent, intravenous method is used. Initially, 10 mg. to 20 mg. of this drug are administered at the rate of 0.5 mg. a minute. Continuous blood pressure recordings are made while the injection is being made. To avoid hypotension, the injection should be interrupted frequently when the blood pressure is falling and there should be a two to three minute

pause after the first 20 mm. fall in blood pressure. Following this initial therapy, blood pressure determinations are made at fifteen to thirty minute intervals, and the subsequent dose of Apresoline and the frequency of its administration are determined by the blood pressure response and the duration of effect. The drug is not repeated until there is a rise in blood pressure.

Although preeclampsia cannot be prevented, eclampsia is preventable in the majority of instances provided the patient seeks prenatal care and follows the advise of her physician. Progression from moderate to severe preeclampsia is frequently rapid; when severe preeclampsia develops, eclampsia is imminent. Hence, the individual with moderate preeclampsia is a potential obstetric emergency and should be hospitalized for evaluation and treatment. Hospitalization is indicated if any of the following signs are present: A blood pressure of 150/100 or more; persistent pretibial or more extensive edema in the presence of hypertension or proteinuria; a 24-hour urinary protein excretion of 1 gm. or more; headache; visual symptoms; nausea; vomiting; or epigastric distress.

In the hospitalized patient, the edema is treated by a low sodium, low potassium, low chloride diet consisting of less than 30 mg. of sodium, less than 1000 mg. of potassium and less than 40 mg. of chloride and containing 45 gms. of protein and 50 gms. of fat. Supplemental vitamins are administered. This diet should not be continued beyond 14 days since its prolonged use can lead to a serious electrolyte imbalance. Oral water intake should be sufficient to produce a 2000 c.c. daily urinary output. In the presence of cardiac decompensation, the daily fluid intake should be limited to 500 c.c. or 1000 c.c. Water balance is evaluated by means of daily weights and the measurement of intake and output.

The hypertension is treated by bedrest. It is our practice to limit sedation because of the possibility of masking signs and symptoms which would indicate that the disease is progressing. The individual with severe preeclampsia is an exception. It is our practice to administer sodium amytal, magesium sulfate, and hypotensive drugs to these patients. When sedation and antihypertensive therapy are considered necessary, careful study of the patient must be made to determine how soon the pregnancy should be terminated.

There is no specific treatment for the proteinuria. Quantitative determinations should be made. A 24-hour protein excretion of one to three grams is serious, and an output in excess of three grams is ominous. The treatment of oliguria, anuria and cerebral symptoms consist of sedation, hypertonic glucose and delivery.

The patient with mild preeclampsia can usually be treated for 7 to 14 days until the condition of the cervix warrants the induction of labor. Cesarean section entails a maternal and fetal mortality of its own and should be used only when a eclampsia is imminent. The imminence of eclampsia is indicated by the following signs and symptoms: A rising blood pressure; a persistent systolic blood pressure of 170 or more; proteinuria which is in excess of 3 grams in 24 hours; a persistent daily weight gain of 100 gms. or more when adequate medical management has been instituted; headache; nausea; vomiting; blurring of vision; scotoma; hemorrhagic retinopathy; retinal detachment; a 24-hour urinary output of less than 750 c.c.; hematuria jaundice; an N.P.N. of 50 mg. or more; a persistent pulse rate of 120 or more; pulmonary edema; cyanosis; and increasing hemoconcentration.

The individual who develops eclampsia is faced with a mortality which is 100 times greater than which obtained a few hours before she developed convulsions. These individuals should have a special nurse. Temperature, pulse, respiration and urine volume should be recorded hourly. Intermittent suction should be employed and oxygen should be administered during cyanotic episodes. In some instances trachetomy is necessary to ensure an adequate respiratory exchange; and to prevent the aspiration of vomitus. We routinely employ 50% magnesium sulfate, sodium amytal and the antihypertensive drugs for the management of the convulsions and hypertension. Morphine sulfate is used only for analgesia when the patient is in labor The hypotensive drugs are not a substitute for the anticonvulsion action of magesium sulfate. An initial dose of 12 c.c of 50 per cent magnesium sulfate is administered intramuscularly; 4 to 6 c.c. are given, intramuscularly, after each convulsion and repeated every 4 to 6 hours when the con-

vulsions are controlled. We attempt to limit the total amount of this agent to 40 c.c in 24 hours.

One thousand c.c of 20% glucose are administered every 8 hours for the purpose of maintaining a minimum 30 c.c, hourly, urinary output. In the presence of anuria or cardiac failure, 200 c.c. of 50% glucose is substituted for the 20% glucose.

Pulmonary edema is treated by high spinal anesthesia, the use of tourniquets or the administration of ganglionic blocking agents.

In mild eclampsia, the lowest mortality is achieved by medical treatment and the induction of labor. Nevertheless, treatment of intercurrent eclampsia should not exceed five days.

The mortality rate in severe eclampsia is 35%; and it has been our experience that the individual with severe eclampsia recovers only if fetal death or delivery occur early in the disease.

The criteria for severe eclampsia are: more than ten convulsions; a temperature of 39°C or more; a pulse rate of 120 or more; a respiratory rate of 140 or more; pulmonary edema; persistent cyanosis; low or falling blood pressure; low pulse pressure; jaundice; an elevated N.P.N.; hematuria; an hourly urinary output of less than 30 c.c.; and persistent hemoconcentration.

If the individual with severe eclampsia is in labor, the membranes should be ruptured to facilitate the process. If the patient is not in labor, steps should be taken to terminate the pregnancy 8 to 12 hours after the convulsions have been controlled and a diuresis established. Labor should be induced by amniotomy if the cervix is ripe. Cesarean section is indicated if the cervix is not suitable for induction; the induction fails; an inertia type of labor results from the attempted induction so that delivery within 24 hours appears unlikely; or if there is an obstetric indication for cesarean section.

The postpartum treatment of eclampsia consists of sedation, the administration of magnesium sulfate, hypotensive drugs, hypertonic glucise, and electrolyte restriction until a physiologic diuresis occurs. This diuresis usually appears within 12 to 72 hours after the delivery and is a valuable prognostic sign.

The individual with hypertensive disease may constitute an obstetric emergency at the time of her initial prenatal visit. Hence, it is our practice to evaluate these patients at this time. If the urea clearance is 50% or more of normal, the Addis count is not markedly abnormal; the 24-hour urinary protein excretion is less than .5 gm.; there are no significant opthalmoscopic findings; and there is no evidence of heart disease, the patient is generally advised that the pregnancy may be continued. She and her husband are informed of the slight but definite risk which pregnancy entails and of the decreased chance of having a living baby.

In those hypertensive patients in whom the decision to carry the pregnancy has been made, bi-monthly visits during the first 24 weeks of pregnancy, and weekly visits thereafter are indicated. Blood pressure, weight, and 24-hour urinary protein excretion should be determined at each visit. If there is an increase in hypertension or proteinuria or if edema or dyspnea develop, hospitalization for evaluation is mandatory.

Once the decision to carry the pregnancy has been made, we make every effort to prolong gestation to at least 34 weeks. Nevertheless, a progressive increase in 24-hour urinary protein excretion, sustained increases of 30 mm. in systolic blood pressure or 15 mm. in dystolic blood pressure; a progression of retinal pathology; or evidence or renal impairment, constitute an obstetric emergency, and termination of the pregnancy is desirable of both maternal and fetal indications, if the infant is viable. For with these progressive signs, one is faced with imminent fetal death in utero or an abruptio placenta, or both. Under these circumstances, it is better to deliver a living premature infant who has some chance of survival than have a more mature baby die in utero, or subject the mother to the 5% mortality rate which is associated with premature separation of the placenta under the circumstances. When termination of the pregnancy is necessary, amniotomy is the method of choice, provided the cervical findings indicate that delivery within 24 hours can be anticipated. The 24 hour limit is set because it has been our experience that a longer interval results in a marked increase in maternal morbidity and fetal mortality.

We rely upon the antihypertensive drugs

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Viral Diseases of Children

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With the development of improved laboratory techniques, much progress has been made in the study of viral diseases of children. Prior to the development of tissue culture techniques, the time consuming and laborious methods in use resulted in limitations of the study of the problem. Further, only certain viruses could be grown in animals and embryonated hens' eggs.

Using the newer techniques, a multitude of viral agents have been recovered from children both with and without disease. The multiplicity of viruses recovered has caused problems in classification and in associating etiologically virus infection with human illness.

THE CLINICAL DIAGNOSIS OF VIRAL INFECTIONS IN INFANTS AND CHILDREN

Unfortunately, there is no specific test available to the clinician which will quickly and decisively establish the diagnosis of a viral infection. There are certain points in the history that may be of help. If the patient is from an area in which a large number of individuals are known to be ill with viral infections such as influenza, this is of help. However, one must be very cautious during an epidemic not to miss a life threatening disease such as meningococcemia.

Biphasic fever patterns are frequent in pa-

tients with certain viral diseases such as Coxsackie, poliomyelitis, and ECHO infections. It is characteristic of many viral illnesses that the patient have severe retro-orbital pain, photophobia, and intense myalgia. Exanthems are frequent accompaniments of viral diseases, although they also occur in other illnesses of nonviral etiology. Nasal congestion or seromucoid rhinorrhea at the onset of an illness is suggestive of a viral etiology. It is also known that hoarseness frequently accompanies viral infections, but it is unusual for this symptom to be present initially in bacterial infections of the upper respiratory tract.

There are alterations in the peripheral blood which are considered to be characteristic of viral infections. These changes consist of leukopenia with a relative lymphocytosis. However, this "characteristic blood picture" is not dependably present in infants and younger children. On the contrary, at the onset of a viral infection, the number of leukocytes in the peripheral blood may be normal or slightly increased, and the differential is most often normal. If one examines a smear of peripheral blood of infants and younger children, one may demonstrate "unusual" appearing lymphocytes. These cells have been referred to as "atypical lymphocytes," but a preferrable term is "viruscytes." These cells are not atypical in the same sense as the lymphocytes observed in infectious mononucleosis. The "viruscytes" are apparently young lymphocytes with rather abundant cytoplasm which is not foamy or vacuolated. Determination of C-reactive protein may be of help in viral diseases. Ordinarily, in my experience, the C-reactive protein in disease of viral etiology is either absent or less than 2 plus. For example, in tests of sera obtained from 45 patients with aseptic meningitis of proved viral etiology, only 10 patients had positive C-reactive protein determinations. In all instances in which the test was positive, the reaction was less than 2 plus. On the other hand, most patients with viral diseases will show moderate elevation of the erythrocyte sedimentation rate. A scattergram was prepared to show the relation of the C-reative protein and erythrocyte sedimentation rate in over 200 sera from patients with various diseases (Figure 1). It will be noted that there were many patients with no C-reactive pro-

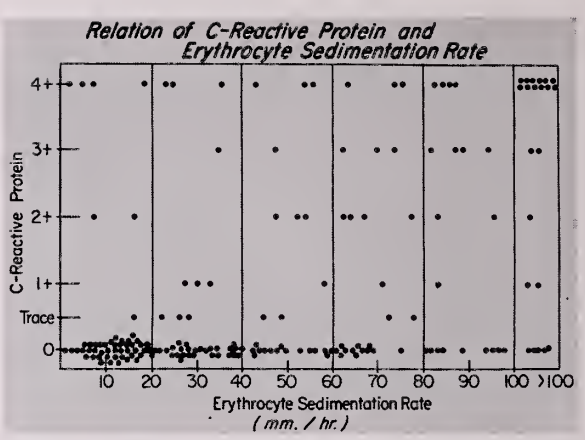


Figure 1. This scattergram shows the relationship between C-reactive protein determinations and erythrocyte sedimentation rates. In the majority of the cases in which the sera contained no C-reactive protein but the erythrocyte sedimentation rate was elevated, the patients had viral infections.

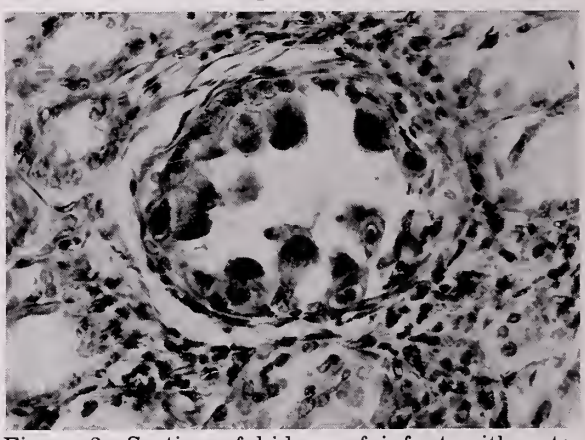


Figure 2. Section of kidney of infant with cytomegalic inclusion disease. Note the large cells containing intranuclear inclusions within a renal tubule.



tein who had moderate elevation of the erythrocyte sedimentation rate, between 20 and 60mm/hr. Most of these were patients with vival diseases.

Also, it is well known that one may find cells with viral inclusions or elementary bodies in certain diseases such as variola, herpes simplex, and vaccinia. Likewise, one may find typical cells with intranuclear and cytoplasmic inclusions in the urinary sediment of children with cytomegalic inclusion disease (Figure 2).

ASEPTIC MENINGITIS

It is no longer tenable to make the diagnosis of nonparalytic poliomyelitis without definitive viral studies. Expecially with the use of Salk vaccine for the prevention of this disease, many of the patients with "polio-like" illnesses will be found to have their disease on the basis of other etiology. In such patients, in the absence of actual paralysis it is preferrable to simply make the diagnosis of aseptic meningitis.

During the period from June through October, 1959, adequate specimens for viral diagnosis were received in our laboratory in Iowa City from 90 patients with aseptic meningitis. Viruses were recovered from the specimens of 45 patients. The viruses isolated included the following:

Virus	Number of Patients
Polio virus type I	26
Polio virus type III	3
ECHO virus type 3	1
ECHO virus type 4	2
ECHO virus type 6	1
ECHO virus type 7	2
ECHO virus type 9	3
Coxsackie A 9	2
Coxsackie B 3	1
Coxsackie B 5	1
Unidentified viruses	3

Studies of the sera from these patients obtained during the acute convalescent phases of illness indicated a rise in antibodies against their homologous virus.

SITE OR RECOVERY OF VIRUS: Virus was recovered from 71% of the washings of the anal swab, as compared with 60% recovery from washings of the throat (Table 1). Seventeen per cent of the cerebrospinal fluids examined were found to contain virus.

INFLUENCE OF PRIOR SALK VACCINE INOCULATIONS: Table 2 summarizes the number of polio inoculations that these patients had received in relation to diagnosis. Ten of the patients with poliomyelitis infections had received one or more injections of Salk vaccine. It is most pertinent to note that only three of these twenty seven patients who had poliomyelitis had had adequate inoculations, i.e., three or four injections. Nonetheless, all three had muscular weakness. The most alarming fact contained in this table is that 25 of the 45 patients with aseptic meningitis had not received any Salk vaccine. Three of the patients who had not received Salk vaccine died of poliomyelitis.

CLINICAL MANIFESTATIONS: The signs and symptoms in this particular group of patients are sumarized in Table 3. The most frequent symptoms included fever, headache, anorexia, nausea and vomiting, back pain, malaise, and sore throat. As far as signs are concerned, 77% of this group of patients showed meningeal signs. Other signs included lethargy, irritability, hyporeflexia, muscular weakness and/or paralysis. It is difficult in most instances to differentiate clinically the etiologic agent of aseptic meningitis. If one obtains the epidemiologic history from a patient of contact with a sick individual with paralysis, this would suggest that he had poliomyelitis. The presence of paralysis in a

TABLE I

SITE OF RECOVERY OF VIRUS

Specimen	Number Examined	PI* (26)**	PIII (3)	E3* (1)	E4 (2)	E6 (1)	E7 (2)	E9 (3)	Cox.* A-9 (2)	Cox. B-3 (1)	Cox. B-5 (1)	Unidentified (3)	% Recovery
Throat	45	17	2	---	1	---	1	1	2	---	1	2	60
Anal	45	20	2	1	1	1	1	3	1	1	1	---	71
C.S.F.	23	---	---	---	1	---	---	1	---	1	---	1	17

*P — Polio; E — ECHO; Cox. — Coxsackie

**Number of Patients with disease due to this virus

TABLE 2

ASEPTIC MENINGITIS

NUMBER OF POLIO INOCULATIONS IN RELATION TO DIAGNOSIS

No. of Inoculations	PI (26)	PIII (3)	E3 (1)	E4 (2)	E6 (1)	E7 (2)	E9 (3)	Cox. A-9 (2)	Cox. B-3 (1)	Cox. B-5 (1)	Unidentified (3)	Total Cases (45)
0	15	2	1	1	0	1	0	1	0	1	3	25
1	4	0	0	0	0	0	0	0	1	0	0	5
2	3	0	0	0	1	1	0	0	0	0	0	5
3	1	0	0	1	0	0	1	0	0	0	0	3
4	1	1	0	0	0	0	0	0	0	0	0	2
5	0	0	0	0	0	0	1	0	0	0	0	1
No Record	2	0	0	0	0	0	1	1	0	0	0	4

patient with a history of inadequate immunization with poliomyelitis vaccine would make the diagnosis of polio most likely. Aseptic meningitis due to the group A Coxsackie viruses is usually seen as sporadic cases and not as epidemics. Occasionally the illness is concurrent with herpangina. Rarely there may be transitory muscular paresis. In patients with aseptic meningitis due to the Coxsackie Group B viruses, one may elicit a history of simultaneous pleurodynia or contact with a person with chest pain. The patients may have severe localized or generalized myalgia and quite often will have severe retro-orbital pain. It is typical of patients with Coxsackie infections to experience remissions and exacerbations. The Group B Coxsackie viruses may on occasion cause transitory paralysis. The ECHO viruses rarely cause paresis; if it occurs, it is transitory. Here, patients may have simultaneous exanthem or history of contact with an ill individual with rash.

LABORATORY FINDINGS. The white blood cell counts in the peripheral blood were normal or only slightly elevated. The differential counts of the leukocytes in these patients were also normal.

Examination of the cerebrospinal fluid revealed less than 1,000 leukocytes/mm^3 (Table 4). Occasionally, the count may exceed 1,000. This is especially true in aseptic meningitis due to ECHO virus type 9, but this was not observed in our patients with disease due to that virus. As shown in Table 5, the predominant cell is ordinarily mononuclear. Occasionally, however, the neutrophils may predominate. The concentration of protein in the cerebrospinal fluid was usually normal (less than 45mg%) or slightly increased as indicated in Table 6. The concentration of sugar was normal in these patients.

TREATMENT: There is no specific therapy for aseptic meningitis due to viruses. Supportive measures to maintain the patient as comfortable as possible is the most that one can do at present.

ISOLATION: It is known that virus is present in the nasopharynx during the acute phase of illness. Therefore, it is probable that the disease can be transmitted by means of nasopharyngeal secretions. Likewise, the virus is present in the stool early and may remain there for varying periods after convalescence.

There is no doubt in a hospital situation that the patient should be kept on strict respiratory-enteric isolation. The duration of such isolation must of necessity be arbitrary unless serial attempts at virus isolation are carried out. Of course, this is impractical. Therefore, I recommend that the patient with aseptic meningitis be isolated throughout the hospital stay or until one week after becoming afebrile.

CROUP

Croup is a syndrome in which there is in-

TABLE 3

SIGNS AND SYMPTOMS IN ASEPTIC MENINGITIS

SYMPTOMS	PI (26)	PIII (3)	E3 (1)	E4 (2)	E6 (1)	E7 (2)	E9 (3)	Cox. A-9 (2)	Cox. B-3 (1)	Cox. B-5 (1)	Unidentified (3)	%
Fever	26	3	1	2	1	2	3	2	1	1	3	100
Aorexia	17	2	1	2	—	1	2	2	—	1	1	64
Nausea and Vomiting	11	1	1	—	1	1	2	1	1	—	1	44
Sore Throat	6	1	—	1	—	—	1	—	—	—	1	22
Diarrhea	—	—	—	—	—	1	—	—	—	—	—	2
Constipation	5	—	—	—	—	—	—	—	—	—	—	11
Abdominal pain	—	—	—	—	—	—	1	—	—	—	—	2
Headache	18	2	1	2	1	—	3	2	1	1	2	73
Photophobia	—	—	—	—	1	—	—	1	—	—	—	4
Backache	8	1	—	1	—	—	2	—	—	—	—	26
Myalgia	1	—	—	—	—	—	1	1	1	1	—	11
Malaise	7	1	1	—	—	—	2	2	—	1	2	35
SIGNS												
Lethargy	7	2	—	—	1	—	—	—	—	—	—	22
Irritability	7	1	—	—	—	—	—	—	1	—	—	20
Meningeal signs	23	2	1	2	—	—	2	2	1	—	2	77
Respiratory distress	3	—	—	—	—	—	—	—	—	—	—	6
Babinski sign	1	1	—	—	—	—	—	—	—	—	—	4
Hyporeflexia	10	1	—	—	—	—	—	—	—	—	—	24
Ataxia	5	1	—	—	—	—	—	—	—	—	—	13
Convulsions	—	—	—	—	1	—	—	—	—	—	—	2
Muscular Weakness	20	1	—	—	—	1	—	—	—	—	—	48
Permanent paralysis	10	—	—	—	—	—	—	—		—	—	22
DEATHS	3	—	—	—	—	—	—	—	—	—	—	—

spiratory stridor, cough and hoarseness due to varying degrees of laryngeal obstruction. In an individual case, the clinical picture of croup may be entirely the result of spasm or edema or any combination of the two. Further, a foreign body or extrinsic mass which encroaches upon the laryngeal airway may be accompanied by varying degrees of spasm and edema.

The etiology of the croup syndrome may be considered as being due to infectious, mechanical, or allergic factors. Most classifications of croup include another distinct category, that is "spasmodic croup." There is increasing evidence that the laryngeal spasm is apparently triggered by and associated with a preceding viral upper respiratory infection in the majority of such cases. There-

TABLE 4

NUMBER OF LEUKOCYTES/MM3 IN C. S. F. IN RELATION TO DIAGNOSIS

Number of Cells/mm3	PI (26)	PIII (3)	E3 (1)	E4 (2)	E6 (1)	E7 (2)	E9 (3)	Cox. A-9 (2)	Cox. B-3 (1)	Cox. B-5 (1)	Unidentified (3)	Total Cases (45)
0— 10	4	—	—	—	—	—	—	—	—	—	—	4
20— 50	4	1	—	—	1	—	—	1	—	—	—	7
50—100	5	—	—	—	—	—	—	—	1	—	1	7
100—200	5	1	—	—	—	—	1	1	—	—	1	9
200—500	5	1	1	2	—	—	2	—	—	—	—	11
No Record	3	—	—	—	—	2	—	—	—	1	1	7

TABLE 5

DIFFERENTIAL COUNTS OF LEUKOCYTES IN C. S. F.

Predominant Cell	PI (26)	PIII (3)	E3 (1)	E4 (2)	E6 (1)	E7 (2)	E9 (3)	Cox. A-9 (2)	Cox. B-3 (1)	Cox. B-5 (1)	Unidentified (3)	Total Cases (45)
Lymphocytes	17	2	—	1	1	2	2	—	1	1	3	30
Neutrophile	1	—	—	1	—	—	1	2	—	—	—	5
Not Done	8	1	1	—	—	—	—	—	—	—	—	10

TABLE 6

CONCERTRATION OF PROTEIN IN CEREBROSPINAL FLUID IN RELATION TO DIAGNOSIS

Protein (mg%)	PI (26)	PIII (3)	E3 (1)	E4 (2)	E6 (1)	E7 (2)	E9 (3)	Cox. A-9 (2)	Cox. B-3 (1)	Cox. B-5 (1)	Unidentified (3)	Total Cases (45)
0— 45	5	1	1	—	1	—	—	1	1	—	1	11
45—100	14	1	—	2	—	—	2	—	—	—	1	20
100—200	4	—	—	—	—	—	—	—	—	—	—	4
Not Done	3	1	—	—	—	2	1	1	—	1	1	10

fore, it does not seem tenable on the basis of the present information to make a clear cut distinction between infectious croup and spasmodic croup that implies that the latter is in no way related to infection.

The most important cause of bacterial croup is Hemophilus influenza type B. In this form of croup which is most common between the ages of 3 and 7 years, the onset is quite rapid and follows by only a few hours the initial symptom of illness which is usually sore throat. The patients appear seriously ill out of proportion to the duration of the disease. There is marked supraglottic edema and the epiglottis is frequently firey red in appearance and swollen. There is usually a leukocytosis with a predominance of polymorphonuclear cells. In the past, Corynebacterium diphtheriae was an important cause of croup. In diphtheric croup the age of highest incidence is also between 3 and 7 years. This form of croup is preceded by signs of an upper respiratory infection for 3 or 4 days, and frequently a membrane is present. Another important sign is a serosanguinous nasal discharge.

Because of the inability to recover consistent bacterial pathogens from patients with

croup, it has been assumed that most cases of the disease are the result of viral infections. Children with viral croup give the history of preceding respiratory infection in most cases. Although the patients may show a varying degree of apprehension and restlessness, they do not show the same degree of toxemia as do children with disease due to hemophilus influenza. The leukocyte count in patients with viral croup is usually normal or moderately elevated with a normal differential count. Here, the age of highest incidence is less than 3 years.

Thus far, three viruses have been demonstrated to cause croup. These include the CA virus, the influenza viruses, and hemadsorption virus type 2(Parainfluenza 1). In addition, other viruses have come under suspicion as possibly causing this syndrome and these include the adenoviruses, hemadsorption virus type 1, CCA virus, and the U virus (ECHO 11). In addition, it seems entirely possible that any of the viruses that cause upper respiratory disease may for some unexplained reason extend downward to involve the larynx. If this be true, then any number of viruses may cause the viral croup syndrome.

As far as treatment is concerned, general supportive measures are important. Since the patient is usually quite apprehensive, it is advisable that the child be kept as quiet as possible and that alarming procedures be kept at a minimum. In selected instances, sedation may be helpful. The same caution should be exercised in administration of sedatives as is observed in any patient with respiratory difficulties.

Patients are benefited by being placed in an environment of high humidity. Although cool mist seems preferable to steam, the latter is also beneficial and is easier to use in the home. If the child is quite apprehensive and is in the hospital, it is best to give fluids intravenously, at least for the first 24 hours. This obviates frequent arousal of the child which may exaggerate symptoms. In those instances in which spasm of the larynx predominates rather than edema, administration of syrup of ipecac may produce dramatic relief of symptoms. It is assumed that ipecac mediates its relaxing effect upon the larynx by means of a vagal response. Ipecac is given in subemetic doses, but frequently the therapeutic effect of the drug is not achieved without vomiting. Thus, any infant or child who receives ipecac should be closely observed in the hour following its administration to prevent aspiration of gastric contents in case emesis does occur. Should symptoms subside, one can assume that the croup is largely on the basis of spasm and thus obtain valuable information without resorting to laryngoscopy. Aminophylline may also be of benefit in such patients.

Since evidence has been accumulated that croup is due to bacterial agents in less than 20% of cases, it is apparent that antibiotics need only be given in selected instances. Thus, the child who rapidly develops fever with toxicity out of proportion to duration of illness and is found to have a leukocytosis with increased polymorphonuclear cells should be considered to have the disease due to infection with Hemophilus influenza. Although chloramphenicol has been used most extensively in this situation, there are no controlled studies to indicate that it has any particular advantage over tetracycline. Certainly, in our experience, we have never encountered a strain of Hemophilus influenza which was resistent to tetracycline in vitro. If the disease is suspected to be due to Corynebacterium diphtheriae, then penicillin or erythromycin should be given in conjunction with antitoxin. Other indications for the use of antibiotics are in those patients in whom the disease is progressive and in whom secondary bacterial infection is considered to be an important factor. Administration of antibiotics to a patient with croup should never be a substitute for careful clinical observation.

The decision on whether or not to perform a tracheotomy must always be an individual one. If the signs and symptoms increase in spite of the afore mentioned measures, then the procedure will be necessary. Extension of the inflammatory process further down into the tracheobronchial tree with increased secretions may likewise provide an indication. Careful timing of the procedure is important. Therefore, it is desirable to have an otolaryngologist see the patient as soon as possible after admission and to follow the course of the disease carefully.

Lastly, I believe it is still premature to be speaking of viral vaccines for the control of croup. Future studies with much additional data are necessary before the importance of any one agent in the etiology of this disease can accurately be assessed.

VIRUSES AS CAUSES OF RESPIRATORY DISEASES

It is now apparent that there are few distinct respiratory illnesses caused by viruses which can be recognized clinically. Most respiratory illnesses of viral etiology are undifferentiated. Moreover, the spectrum of illnesses that any one virus may cause varies considerably.

A large number of viruses have been recovered from patients with respiratory illnesses. In some instances, data sufficient to establish an etiologic association between virus infection and human illness have been accumulated. In other instances, the viruses are merely "suspect" as a cause of human disease. A brief summary of this information follows:

ADENOVIRUSES: There are now more than 18 antigenically distinct adenoviruses recognized. The disease causing potential of each of the serotypes is not fully known. The adenoviruses have been associated with acute febrile pharyngitis, pharyngoconjunctival fever, follicular conjunctivitis, keratoconjunctivitis, and undifferentiated upper respiratory illnesses.

COXSACKIE GROUP A VIRUSES: This group of viruses is composed of more than 20 distinct serotypes. Several members of this group of viruses have been known to cause herpangina, a febrile illness which involves children primarily during the summer and is diagnosed clinically by the presence of vesicles and ulcers on the soft palate, uvula, and over the fauces and tonsillar areas. These viruses are also an important cause of nonspecific febrile illnesses occurring in children in the summer months.

COXSACKIE GROUP B VIRUSES: The six serotypes in this group of viruses were initially thought only to cause pleurodynia and/or aseptic meningitis. In family infections, however, a spectrum of illness may be observed which includes febrile pharyngitis and undifferentiated respiratory disease.

INFLUENZA VIRUSES: The epidemic respiratory illness during the past two years has been caused by the Asian strain which is related to the type A viruses. This group of viruses pose a special problem in that they undergo antigenic variation so rapidly that effective preventive vaccines are difficult to prepare.

The illness caused by these viruses usually occurs following a short incubation period. Initially the constitutional symptoms of illness greatly exceed the objective signs of illness which may be altogether lacking. Severe myalgia and malaise are prominent complaints.

ECHO VIRUSES: Of the more than 24 types of ECHO viruses, only 3 are thought to be a cause of respiratory disease, i.e., types 8, 10 and 20. Type 10 has been removed from the ECHO group of viruses and various strains of the virus have been designated as the reoviruses. This was necessitated because of dissimilarities with other viruses of the ECHO group. ECHO viruses type 8 and 20 were recovered from infants and young children with mild respiratory-enteric disease.

HEMADSORPTION VIRUSES: There are currently recognized two antigenic types of hemadsorption viruses. These have recently been incorporated along with other myxoviruses into the parainfluenza group of viruses. The hemadsorption viruses are apparently capable of causing a wide spectrum of respiratory illnesses including pharyngitis, croup, bronchitis, and pneumonia.

MISCELLANEOUS VIRUSES: A number of other viruses have been recovered by different investigators from patients ill with respiratory illnesses. As yet, they have not been classified and await further studies. These include among others, the CCA virus, Coe virus, HE virus, and JH virus.

SUMMARY:

Using tissue culture techniques, a large number of viruses have been recovered from specimens of ill children. A collaborative effort on the parts of clinicians, epidemiologists, and virologists has resulted in many of these viruses being etiologically associated with human illness. Others are as yet merely "suspect." In this report, a summary of the newer information is given as it pertains to infants and children.



Physiological Principles In The Early Management Of Chest Injuries*

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Injuries of the thorax may vary considerably in type and degree of severity. In military casualties as well as in civilian accidents these wounds have constituted one of the major causes of death in the field of trauma. During World War I, 20 to 30 per cent of the deaths on the field of battle resulted from this cause. Only 4 to 8 per cent of the total wounded admitted to the Clearing Stations were chest injuries. Early mortality of those seen at advanced stations escaping immediate death was 25 per cent. Thus, these fatalities usually occur **early** following an injury, an indication that **prompt first aid** measures may materially reduce the rate of mortality. This was evidenced by the fact that during World War II casualties with injuries of the chest received first aid measures near the front lines. Death from these wounds was reduced to only a small fraction of those occurring during World War I. In the management of severe wounds of the chest, shock and hemorrhage from additional sites must be kept in mind as a likely cause of the presenting clinical features. However, disturbance of cardio-respiratory function may prevent improvement following adequate treatment of shock from other causes.

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Classification of Injuries

For convenience of discussion, wounds of the thorax may be divided into (1) non-penetrating injuries in which only the chest wall is involved; (2) penetrating injuries in which the entire chest wall as well as the pleura is involved; (3) perforating wounds in which the entire thorax has been traversed by a foreign body, and (4) blast or concussion injury in which damage of the pulmonary tissue is brought about by sudden exposure of the chest to extremely high pressure within a small enclosed area.

Injuries of the Thorax May Threaten Life Because of: (1) shock (2) hemorrhage (3) alteration of cardiopulmonary function and (4) infection. Early first aid measures of most importance are (a) administration of oxygen, (b) control of hemorrhage, (c) correction of physical disturbance of cardiopulmonary function, (d) replacement of blood loss by the use of whole blood or plasma, and (e) prevention of infection.

Chest Injuries Requiring Immediate Attention

(1) **Open or sucking wound with pneumothorax.** The ill effects accompanying this type of wound are chiefly those due to disturbance of cardiopulmonary function. The lung on the side of injury becomes collapsed and airless, the mediastinum deviates toward the opposite side, and the contralateral lung becomes hypoinflated. If the opening through the chest wall is larger than the size of the trachea, the condition is usually incompatible with life. Paradoxical respiration develops in which the mediastinum swings from side to side with respiration thus preventing normal or adequate gaseous exchange in the remaining inflated lung. In addition to the ill effects on pulmonary function, hemorrhage from the chest wall or lung may add to the clinical picture. Dyspnea and cyanosis in varying degrees of severity, along with a cough and hemoptysis, are usually present. First aid measures should include immediate closure of the opening through the chest wall by whatever means are available, thus converting an open pneumothorax into a closed one. Aspiration of air from the pleural cavity on the injured side will increase the pulmonary capacity and give some immediate relief of symptoms unless serious hemorrhage has occurred. Definitive treatment, when available, should include hemostasis, debridement of the wound with removal of foreign material from the chest wall or intrathoracic area, and removal of air from the pleural cavity by continuous suction drainage after closure of the chest wound. Replacement of blood loss and the use of oxygen and antibiotics are an important part of this management.

(2) **Tension pneumothorax.** This condition is produced by a penetrating wound of the chest, in which the lung is injured by a fractured rib or a foreign body. As air escapes into the pleural cavity and is trapped, the pressure within the pleural cavity gradually increases, thus collapsing not only the lung on the side of injury, but to somewhat lesser extent, that of the opposite side. In addition to the deleterious effects from the markedly reduced pulmonary capacity, symptoms may also be on the basis of hemorrhage within the pleural cavity. Ventilation of the opposite aerated lung is also disminished due to deviation of the mediastinum toward the contralateral side. This condition is recognized by the presence of dyspnea, cyanosis, and increased peripheral venous pressure. Physical findings are self-explanatory. Management of tension (pressure) pneumothorax includes continuous suction applied to the pleural cavity through an intercostal catheter for reexpansion of the lung, and replacement of blood loss if hemorrhage has occurred. A small foreign body in the lung may be inconsequential and require no therapy. However, foreign bodies over 1.0 centimeter in size, especially when located near larger vessels, should be removed when facilities are available. The use of oxygen and chemotherapy are valuable in managing this problem.

Case No. 1. (Fig. I) This is an example of tension pneumothorax of considerable degree in a 28-year-old woman following the production of a broncho-pleural fistula. Note marked deviation of mediastinal structures toward the opposite side with not only complete collapse of the entire right lung, the site of involvement, but a considerable degree of collapse also of the left lung. Symptoms of dyspnea, which were extremely marked on any degree of exercise, were immediately relieved on the aspiration of air from the left pleural cavity and maintenance of the medistinal structures in their normal position.

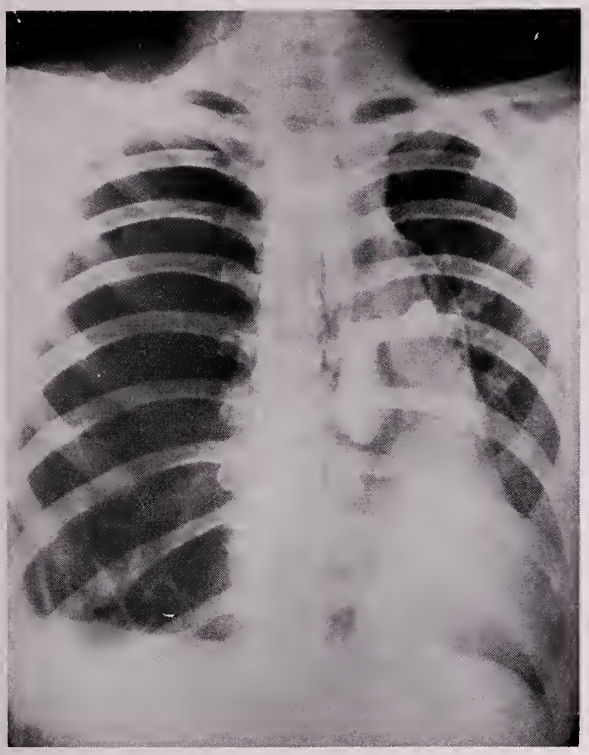


Fig. 1. Case No. 1. X-ray appearance of Tension Pneumothorax in a 28-year-old female. Note marked shift of mediastinal structures toward the opposite side with complete collapse of the right lung and marked collapse also of the left.

(3) **Unstable chest wall, "flail chest."** Fractured ribs are frequently multiple; however a double fracture of several ribs occurs infrequently. When several ribs are broken in two places, covering a segment of the chest wall, this area may become unstable. If the region is sufficiently large and tends to move inward on inspiration, thus interfering with ventilation of the lung, the condition is called a "flail chest." The lesion usually results from a crushing injury of the chest by a flat object. It is accompanied by hemorrhage into the chest wall as well as into the pleural cavity. Lacerations of the underlying lungs by the fractured ribs with resultant pneumothorax may occur. The clinical features attending this type of injury are on the basis of interference with ventilation of the lung, decrease in pulmonary capacity from hemopneumothorax, and collapsed chest wall, and loss of circulating blood volume. In simple fracture of the rib, paravertebral blocking with novocain of the intercostal nerve roots involved, is the treatment of choice. Control of pain by this method is preferable to strapping of the chest with tape, since the latter tends to interfere with respiratory activity. Early therapy for "flail chest" entails stabilization of the chest wall by whatever means are available. Adequate ventilation of the remaining functioning lung tissue is then reestablished. If a large segment of the chest wall is involved, massive collapse of the lung on the ipsolateral side may occur. This may be from both compression of the chest wall and bronchial obstruction by blood or secretions. Definitive treatment entails elevation and stabilization of the "fail segment" by traction. In this way the underlying collapsed lung will be reexpanded and the normal size of the thoracic cage will be reestablished. Additional therapy should include replacement of blood loss by transfusion and removal of air and blood from the pleural cavity as described under "sucking wound" of the chest. Oxygen and antibiotics should be used as indicated.

Case No. 2. (Fig. II) This is a good example of a flail chest in a 54-year-old female following a "double fracture" of the right second to sixth ribs inclusively with massive collapse of the right lung beneath. The chest wall was "stoved in" as a result of an automobile accident. Note some degree of shifting of the upper mediastinal structures toward the right or involved side due to massive collapse of the lung on that side. Other fractures including an upper extremity as well as a lower extremity had been produced by the accident. Early treatment consisted of the replacement of blood loss in the treatment of shock and stabilization of the chest wall by adhesive tape strapping and immobilization of extremity fractures. Symptoms of dyspnea and some degree of cyanosis were completely re-



Fig. 2. Double fracture of 5 ribs producing a flail chest in a 54-year-old female following an automobile accident.

lieved following this treatment. Later definitive treatment included outward traction on the portion of the chest wall involved and reaeration of the right lung.

(4) **Massive collapse of the lung (atelectasis).** As indicated above, massive atelectasis of the lung may occur as the result of bronchial obstruction by blood or mucopurulent secretions, or from compression of the lung by air or fluid within the thoracic cavity, or by a collapsed "flail chest" resulting from a crushing injury of the chest wall. Since the clinical features of this condition are quite readily recognized, there is usually little difficulty in diagnosis. Treatment consists of eliminating the cause and management of the associated pathology as described above.

Case No. 3. (Fig. III) (a) Upper left. X-ray appearance of the chest in a 5-year-old boy immediately following an accident in which he was run over by an automobile. Note complete collapse of the left lung and a large pneumothorax with some deviation of mediastinal structures toward the right. Extreme dyspnea and marked cyanosis were present.

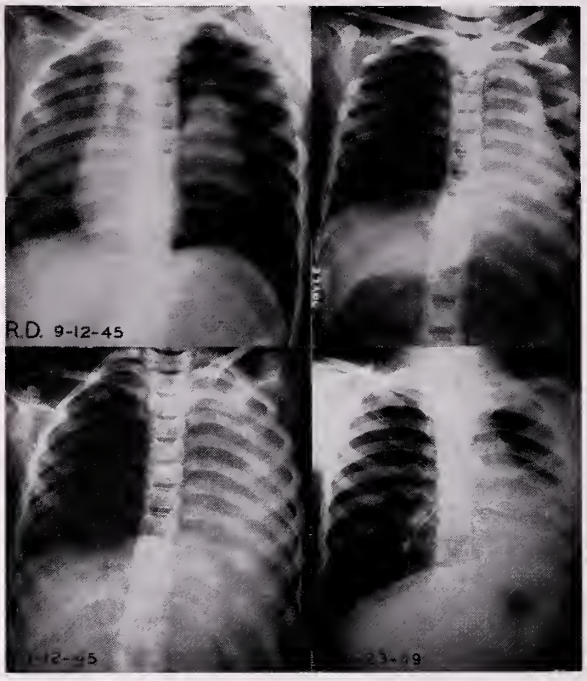


Fig. 3, a, b, c, d. X-ray views of the chest in a child with traumatic bronchial stricture following an automobile accident. The large pneumothorax noted in a was largely gone within the first three weeks and the completely atelectatic lung has persisted since the time of the accident. Pulmonary function studies show relatively normal values, excepting for a slight decrease in systemic arterial blood oxygen saturation.

Early treatment included the administration of oxygen and continuous aspiration of air from the pleural cavity; (b) Upper right. Appearance of chest 18 days later showing a residual pneumothorax with marked shift of the mediastinal structures toward the left or involved side. The left lung is completely atelectatic due to traumatic bronchial stenosis; (c) Lower left. Two months following the accident, an X-ray shows the left lung completely atelectatic with no pneumothorax remaining and the right lung markedly overdistended and herniated into the left side; (d) Lower right. X-ray following installation of radio-opaque material showing complete obstruction of the left primary bronchus due to traumatic stenosis at the time of the accident. The left lung is entirely atelectatic and the right is markedly overdistended and herniating over into the left chest. This patient's symptoms were relieved by the aspiration of air from the left chest and the reestablishment of mediastinal structures in their normal position. At the time the X-ray was made in the lower right-hand corner, the patient's cardiopulmonary function was within normal limits, excepting for a very small decrease in systemic arterial blood oxygen saturation.

(5) **Cardiac tamponade.** Hemopericardium is caused by an injury of the heart or vessels within the pericardium. In the case of the latter it is likely to lead to a fatal termination within a short time. The resulting filling of the pericardial sac with blood interferes with the return flow of blood to the heart due to compression of the right auricle and thus decreases cardiac output. Marked dyspnea is thus produced but no cyanosis. Examination reveals pallor, decreased blood pressure and increased venous pressure along with enlargement of the cardiac dullness and muffled heart tones. The lack of cyanosis and the presence of normal breath sounds along with the above findings make for a characteristic picture. Treatment consists of aspiration of blood from the pericardial cavity as an emergency life-saving measure. This may be repeated as indicated by blood pressure readings, while preparation is being made for definitive management. Aspiration alone may be sufficient therapy when bleeding from the heart ceases spontaneously.

(6) **Shock.** Chest injuries may be accom-

panied by serious hemorrhage into a pleural cavity from one of three locations: (a) an internal mammary artery, (b) an intercostal artery or (c) the lung. Since bleeding within the pleural cavity is hidden, it may reach considerable proportions before its seriousness is evident. By this time the patient usually presents the usual manifestations of severe shock from blood loss. In addition to the usual symptoms caused by severe hemorrhage, local findings over the involved chest leads to the establishment of a correct diagnosis. Treatment consists of replacement of blood loss, oxygen and antibiotic therapy, and removal by aspiration of blood from the pleural cavity. If the blood pressure level continues to drop after replacement of blood loss by transfusion, continued bleeding from a systemic artery is most likely present. Exploration of the wound or intrathoracic structures with control of bleeding is then indicated. If bleeding has stopped after replacement of blood loss, removal of all blood from the pleural cavity by aspiration should be completed within twenty-four hours. In the event that clotting of blood has occurred, one of two types of management should be followed: (a) open thoracotomy with removal of clots and reexpansion of the lung or (b) drainage of the pleural cavity through a chest wall catheter and the local use of enzymes for liquefaction of the clotted blood. If trauma is extensive, exploratory thoractomy is to be preferred since traumatized lung can then be removed or repaired. When a hemothorax persists any considerable length of time, a fibrous tissue "peel" forms over both the parietal and visceral pleura. After this has occurred, an open operation and removal of the "peel" along with remaining clotted blood and serum is necessary for reexpansion of the lung.

Case No. 4. Fig. 4a represents an instance of marked blood loss into the right pleural space following a traumatic injury of the chest. Symptoms of shock were present and were treated by replacement of blood loss. The hemothorax in this 32-year-old man was inadequately removed and became clotted after which a layer of fibrous tissue "peel" developed over the lung and chest wall pleura with subsequent contraction of the chest wall. Pulmonary capacity as well as ventilatory

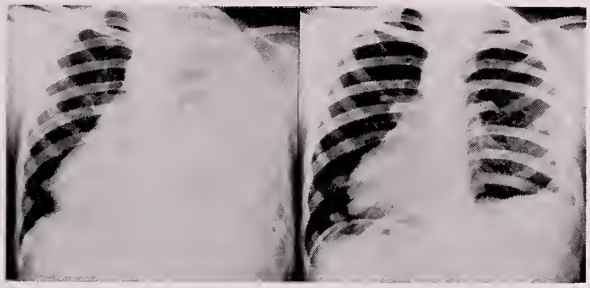


Fig. 4, a and b. X-ray appearance of the chest before and after removal of "peel" from the visceral and parietal pleura of the chest in a 32-year-old man whose original traumatic hemothorax had been inadequately treated. Good function was restored following surgery.

function was greatly reduced. Fig. 4b shows the X-ray appearance following removal of the "peel" covering the lung and chest wall with reestablishment of normal expansion of the lung and movement of the chest wall on respiration.

Chest Injuries Where Infection is Likely to Occur

(1) **Contaminated and lacerated wounds.** Therapy here consists of careful debridement combined with antibiotics and sulfonamides. When the pleura is involved, open thoractomy is indicated and closure is made allowing for continuous suction drainage of the pleural cavity by intercostal catheter.

(2) **Foreign bodies.** Since foreign bodies are likely to carry particles of clothing or other foreign material into the chest, infection of the pleura or other structures is likely to occur. Therapy will include measures used in contaminated wounds. In addition, the size and location of the foreign body as well as the presence of infection will determine whether it should be removed.

(3) **Lower chest injuries involving the upper abdomen.** Since the large bowel and stomach are above the lowermost level of the lung on the left side, penetrating wounds in this region are likely to be accompanied by sepsis. Exploration of the upper abdomen and lower thorax is indicated and the damaged organs and tissues treated accordingly.

Chest Injuries Not Usually Demanding Surgery

(1) **Subcutaneous and mediastinal emphysema.** The seriousness of this condition is usually more apparent and real. It may result from penetrating, non-penetrating and crushing injuries of the chest. Air may escape

(Continued on Page 328)



SOME OBSERVATIONS AND IMPRESSIONS ON WHITE HOUSE CONFERENCE ON CHILDHOOD AND YOUTH

1960

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Rapid City, South Dakota

It has recently been my privilege and pleasure to attend the White House Conference on Childhood and Youth held in Washington, D. C. March 27 through April 2, 1960.

One of my first impressions on arriving in Washington was that most everyone I met seemed to be interested in some phase of the conference. Three of the people who had been on the plane I took to Washington were also attending the conference. After deplaning, I took a taxi-cab from the airport and the two people who shared it with me were also conference delegates. One was a lady representing a youth organization from her home town, and the other, a student from Ohio State University, was attending as a youth delegate. On arriving at the Hotel it seemed that everyone in the lobby was discussing some phase of the coming activities relating to the conference.

During the following days as the conference progressed, there was a feeling of the tremendous size of the group involved and the wide variety of topics relating to the welfare of children and youth. I was impressed by the number of people attending who spoke languages other than English and whose garb and other characteristics indicated that they were not native of the United States. There

were some 500 adult and youth representatives from 75 countries other than the United States. This demonstrated beyond any doubt that other countries are confronted with and concerned about similar problems, and that this White House Conference attained international significance.

The theme of the Conference this year was "To promote opportunities for children and youth to realize their full potential for a creative life in freedom and dignity."

These conferences are called every ten years by the President of the United States in order to evaluate things being done in the interest of children and youth and to outline a program of action for the following ten years.

About 7,500 people attended the conference, all of whom are interested in one way or another in development and advancement of children and youth. In order to carry out the mechanics of such a large group the delegates were divided for purposes of listening to speakers and considering their various topics as follows:

Five theme assemblies, each containing approximately one fifth of the total delegates.

Eighteen forums were also held at which time the speakers presented thought stimulating discussions on various phases of the program.

210 discussion groups then followed to consider first, a survey of what we know, second, a survey of what we do, and thirdly, to develop a blueprint for the future.

In a discussion group consisting of approximately thirty participants, resolutions were drawn which were then presented to the forum for adoption. Here resolutions were consolidated and discussed, followed by adoption or rejection.

As the groups came together it was obvious that many of the delegates were young people. About 900 of the registrants were from high school and college age groups. These young people took a vary active interest in the topic discussions and seemed very intent in listening to the speakers. The impression was gained that if these youngsters were to be the leaders of tomorrow, their enthusiasm, interest, and ability to present their views would seem to make tomorrow more hopeful. Their knowledge of local, national and world-wide affairs was very stimulating and impressive. It was often apparent that they were talking first hand from the point of view of youth, while we as adults were talking about things relating to youth. I feel that the increased youth representation and active participation was a definite step forward in such a conference.

What is the outlook for the children and youth of today over the next ten years? What kind of adults will our present generation of youth be? Will they be able to carry on the responsibilities of local communities, the nation, and the world when their time comes. Has the younger generation lost the sense of values which our predecessors have handed down, or are they simply expressing them in a different way? What affect will the changing environment, trends in population growth and migration, and the relative insecurity in which we live, do to their ability to adjust to this ever-changing life? What will the educational opportunities, which in the past, have been so readily obtainable, become as population of the United States increases? These and many other questions were raised and discussed during the week of the conference.

Several things seemed to stand out as being of utmost importance in considering what we as adults can do for the children and youth who are coming up during the next ten years. One of the most discussed questions seemed to be that pertaining to family life, personal values, and ability to live with one and another. The family unit as the basis of social, economic, and religious life was stressed many times.

The home is the place of beginning of physical life and is also the cradle of mental and emotional stability. The baby who is loved and wanted in the home gains a feeling of closeness to other people. As he becomes a child and youth he is able to adjust to changes and to the demands of life without injuring his personality. He becomes a happy, dependable, and productive adult who can benefit himself and society.

It was interesting to note that the speakers who addressed us in the forums and at the theme assembly meetings, many times presented two sides of a question. In some instances the talks given were overly optimistic and very idealistic.

The next speaker, on either the same question or a closely related question, would present a very pessimistic picture, even suggesting that the conference was useless and no good could come from it. But as the conferernce progressed it became obvious that this was done with intent to stimulate thinking, and to present as many conflicting ideas as possible, to foster more activity in the discussion groups. Certainly in the discussion groups, things were not cut and dried. Each one had an opportunity to express his views. Because of the many disciplines and schools of thought represented in the discussion groups, many sides of the questions discussed were presented.

Instability of the home in these times resulting from migration of families from one community to another was brought out. In urban areas there is a tendency for people to live in the suburbs and commute to their jobs. In many instances there are working mothers as well as working fathers. Children are subjected to many different and inconstant types of care, including relatives, nurseries, baby sitters, and day schools which seem to be undermining the basic home unit. Interests of people seem to be changing as families move to new locations. There seem to be small communities growing up within larger communities, each one being more or less self sufficient, but each trying to establish for itself the cultural as well as the economic advantages of a larger city. This has created some economic problems and has probably caused more mothers, as well as fathers, to seek employment. The effect of this on the child is thought not to be the best, but perhaps children under these conditions become more self sufficient earlier than in the more closely knit home. On the other hand, there are too many opportunities for the child to be away from the influence of the home and to be subjected to environments which may lead to behavior problems and delinquency.

Education in the next ten years is going to be severly strained with the increasing population including the lower grades through college. There will be a definite shortage of housing and facilities. There will also undoubtedly be a shortage of well qualified teachers. High school graduation will be accepted as essential for almost any desirable type of work. College education will be a requirement for more and more jobs, administrative positions, professions, and many other types of service careers. It is anticipated that within the next ten years because Federal Government is taking such a large percentage of the tax dollar, that federal aid to education is going to be imperative.

More attention must be given to the group of students who have higher than average intelligence. They must be given an opportunity to advance as fast as they are able, and must not be held back because our educational system is geared to the average. Unless this is done, we are wasting a tremendously valuable resource.

Indications from the statistics gathered by labor indicate that the type of job done by the common laborer is becoming less and less important in our economy. Fewer people will be needed to do common labor, more people will be needed for the so-called blue-collar or skilled labor jobs and more and more for the white collar or executive administrative professional group. This means more of the youngsters of today must be high school graduates or college graduates in order to meet the competition of the labor market. Statistics indicate that those without high school education, who are common laborers, are more often out of jobs and have more frequent change in jobs than those in the more highly educated groups. As a result, the economic scale of those without college or higher degrees is appreciably lower. There is a swing from those engaged in production to more people in services such as the professions, selling and servicing of equipment. There has been a tendency over the past few years to provide more and more assistance to those in lower income groups with social security, unemployment insurance, hospital and health plans, and services of social agencies.

People are moving from place to place, more frequently. The resulting economic strain is requiring families to be separated more and more of the time. What affect is this going to have on our children and youth who are growing up under these conditions? In the recent past, because of more sparse population and more distance between families and communities, stronger family spirit was apparent. Families were more self sufficient. By the same token, communities were more closely knit. Under the present chang-

ing conditions, these feelings of closeness are much more difficult to establish. The worth of each individual in society is more difficult to impress on children and youth. Close and life long friendships which formerly were established in local communities are now more dififcult to establish. Religious training is interrupted because of changes in location and changing attitudes toward people in the new community and toward the Church.

While the conference was in session, there was a great deal in the news regarding race difficulties in the South. There were also some instances of race difficulties in the North. This topic became one of frequent discussion among the groups and also among individuals. The impression was gained that integration was coming but should not be forced. As one young Southern student expressed it, "Sure, we're going to integrate, but don't try to push it on us; We will take care of it in time." The young people seemed to feel that these integration problems would be worked out but not in a day or a week.

Much time and effort has been put into the training, education and rehabilitation of those who are physically and mentally handicapped. These programs have been carried out on a local, state and national basis and have come a long way. There is still much to be accomplished, however, and in our changing times, it seems that more integration of service is needed. Doctors, those interested in social welfare, the people who are dealing in education, and those who are trying to establish a feeling of worthwhileness in each individual who is handicapped, must be brought together for the benefit of those who receive their services. It was felt that one of the big needs at the present for the physically, and to some extent the mentally handicapped, is job counseling and placement. Training and placement of these people should be one of our definite interests in the next ten years.

In discussion of many of the problems relating to planning for the future, it became apparent that some answers were also suggested. It was mentioned that more teachers are needed, more specialized types of services are needed to give to the handicapped and also to the normal individual. In the future this field would seem to offer many opportunities for employment for youth.

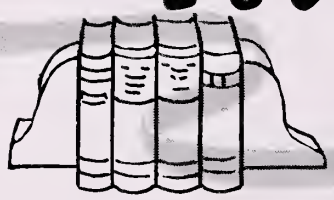
In summing up the services offered in the last ten years it is found that there has been rapid advancement in education, vocational training, job placement, care of the handicapped, and a marked advance in the field of mental and emotional adjustment. An attempt is being made to evaluate these services in the light of present availability and administration. The thought was often expressed that every child and youth should be given the opportunity to advance to the best of his own abilities, and means to bring this about should be our main concern in the next ten years.

It was felt there is a definite need for better coordination of voluntary and government agencies with centralized organization. In this way, all interested organizations could better cooperate to the advantage of the child without duplication and with more efficiency and economy.

The impression was firmly fixed at the end of the conference that many things had been discussed and many problems had been raised. As a result of the consideration in work groups, many recommendations were made. It was announced at the closing assembly that approximately 1600 recommendations had come out of the work groups. These recommendations covered many facets of the problems and many were undoubtedly duplications. Consolidation and formalizing of these recommendations will take a matter of weeks. It is not anticipated that the final recommendations of the conference will be available to the general public before about the middle of May of this year. Although some of the recommendations had the sound of being rather idealistic and ethereal, still many are practical and certainly point up the fact that the worth of the individual in our society is not being overlooked.

The hope of the future lies in our present day children and youth. It is up to us to give them the best opportunity we can to take their places in society and become efficient citizens of the world.

ECONOMICS



ANY PROFESSIONALS CAN GET TAX ADVANTAGES OF INCORPORATION — PROPOSED REGULATIONS ISSUED

The long-awaited proposed regulations governing the taxation of "Kintner-type" professional associations have just been issued by the Treasury. They indicate the circumstances under which unincorporated professional associations qualify for corporate taxation, thereby allowing the members to participate in insured employee benefit plans. When adopted in final form, these regulations will open the door to sales of many new insured pension and profit-sharing arrangements. Up to now, professional groups have held back on setting up unincorporated associations and then establishing plans, since they did not know what the Treasury's position would be.

One of the best-known inequities in the tax law has been its denial to the self-employed of the advantages enjoyed by many employees under pension and profit-sharing plans. The law encourages employers to put aside funds for the employees' future by allowing an employer to deduct contributions to a qualified plan, and by permitting a tax-free build-up of funds in the plan. And lump-sum pay-outs from a qualified plan may get capital gain treatment. Many other tax-favored benefits are often available to employees, such as exempt sick pay, death bene-

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fits, accident and health plans and group term life insurance.

In most lines of business it's possible for the owners to get in on these benefits by adopting the corporate form and becoming employees (stockholder-executives) of the corporation. Here's where some of the professions have been at a big disadvantage — state laws typically frown on the practice of medicine, law, accountancy, etc., by a corporation. So there seemed to be no way for the professional man in effect to employ himself, as so many stockholder-executives have done via the corporate form.

But Dr. Kintner of Montana and his associates pioneered a way. They successfully used for their tax benefit a weapon that had been designed to prevent tax avoidance — the "association" treated as a corporation for Federal tax purposes because of its corporate traits, though not actually incorporated under state law. The essence of the Kintner case is that doctors transformed their partnership into an "association" which the Court said met enough of the tests to be treated as a corporation (Kintner, 216 F.2d 418, 46 AFTR 995). As a result they obtained the benefits of coverage under a qualified pension plan.

The Revenue Service first resisted the whole idea but reconsidered in 1957. Now, with proposed regulations which cover the definitions of an "association" taxable as a corporation (and other key tax words), the Revenue Service accepts the principle that groups that have most of the attributes of corporations (though not necessarily all) can be treated as corporations for tax purposes.

This is big news, because it opens the way for members of professional partnership to get the benefits of qualified pension and profit-sharing plans — without any further legislation like the Keogh bill. Let us consider, very briefly, the proposed regulations as they affect professional men. Regulations are especially important here, because the Code says only this: "The term 'corporation' includes association, joint-stock companies, and insurance companies [§ 7701(a) (3), IRC].

The new proposals list 6 basic traits of corporations which can cause partnerships (or other group) to be an "association." These are (1) associates — one man won't do; (2) an objective to do business and divide the profits; (3) continuity of life; (4) centralization of management; (5) limited liability — that is, limited to the assets committed to the business and (6) free transferability of interests.

The proposed regulations say that traits (1) and (2) are indispensable to the existence of an association in all cases. As to the others, most of them must be present to have an association, but the absence of one (or possibly even two) won't necessarily be fatal. A fast second look at some of these traits is in order.

Trait (3) — Continuity: The death, retirement or other withdrawal of a member must not cause a dissolution of the group — just as death of a stockholder does not end the life of a corporation. The proposed regulations say, in effect, that a typical provision in a partnership agreement, that its business will be continued despite withdrawl of a member, does not provide such continuity if local law treats withdrawal as causing dissolution.

Trait (5) — Limited liability: The regulations say that personal liability will not be considered to exist when the only members who are personally liable for the debts of the organization have no substantial assets which could be reached by its creditors.

Trait (6) — Transferability of interests: A member must be free to sell his interest without the consent of the other members — just as a corporate stockholder can freely dispose of his stock. However, the proposed regulations state that an agreement giving first refusal to the existing members or the organization, before a sale to an outsider, may be ecceptable as a "modified" form of transferability.

The regulations contain seven examples which are helpful in showing how the various traits are pieced together to answer "yes" or "no" in various fact situations. Here is a summary of the results:

Example (I): Only Trait (5) is lacking. An association exists. (Medical practice.)

Examples (II), (III), and (VII): Only Traits (1) and (2) are present. No association. (Medical practice, law practice and securities investment group.)

Example (IV): Traits (3) and (6) are lacking. No association. (Real estate investment group.)

Example (V): Only Trait (5) is lacking. An association exists. (Real estate investment group.)

Example (VI): Only Trait (3) is lacking. An association exists. (Real estate investment group.)

Observation and Query — Even though the Treasury has accepted the general principles expounded in the Kintner case, we are not certain from the above examples whether the Treasury would agree to corporate taxa-

tion if an exact duplicate of the Kintner situation should arise. The Kintner group had continuity of life and centralized management (traits (3) and (4)), but it lacked limited liability (trait (5)) and transferability of interests (trait (6)).

PROBLEMS AND DANGERS

It would be a great mistake for a partnership to rush into a hasty association without careful consideration of the many problems and dangers. In the first place there may be state law problems, and each group should carefully investigate the laws of its own state before making any moves.

Remember, that there are strict and detailed rules governing the qualification of pension and profit-sharing plans which many a professional group might have a hard time in meeting. So far as salary is concerned, remember that a corporation (or an association treated like one) can deduct only "reasonable" compensation. Loss of such a deduction, even in part, would result in corporate tax and might easily wipe out the benefits of association status. Finally remember that it is easier to walk into this room than out of it — forming a corporation is usually tax-free; liquidating one often is not.

RETIREMENT PLAN OFFERED BY PENDING KEOGH BILL

This year is likely to see a strong campaign for enactment of the House-passed Keogh bill, officially entitled the "Self-Employed Individuals' Retirement Act of 1959." Life underwriters should be familiar with the provisions of this measure, since it would greatly boom the sale of endowment and annuity policies. If it is enacted, the underwriter who already knows what it is all about will have a big lead in the vast new market that would be opened.

The bill would allow a self-employed individual to deduct premiums he pays for insured retirement benefits and contributions to trusteed retirement funds (within generous limits). However, many — if not most — self-employed persons will probably prefer to fund their retirement benefits through insurance and annuity contracts, because:

(1) An insured arrangement can offer insurance protection in addition to retirement income, whereas a trusteed plan offers only retirement income. If a taxpayer sets up a trusteed plan and wants to purchase additional reducing term insurance to put his arrangement on a par with an insured plan, the cost of the insurance protection would be higher than the same protection in the insured plan. (Since the cost of pure insurance protection would not be tax deductable in either case, the taxpayer would be paying this extra cost entirely out of his own pocket.)

(2) Insured plans don't involve red tape

(3) Insured plans offer greater security of principal than trusteed plans.

(4) Insured plans are ideally suited to the periodic investment of relatively small amounts.

Here is a summary of the House-passed version as it would apply to insured self-retirement plans:

1. Who would be eligible for deductions?

Any person under 70 who has self-employment income, except persons also covered under qualified pension or profit-sharing plans (see Question 4).

2. How much could such a person deduct?

The maximum lifetime deduction would be $50,000. A person who was under age 50 on January 1, 1959 could not deduct in any one year more than $2,500 or 10% of his "net earnings from self-employment," whichever is lower. A person 50 or over on January 1, 1959 would have his annual limit increased by 10% for each year that he was over 50 on that date. The deductible portion of a premium would be called a "retirement deposit."

Example: Dr. Jones was 55 on January 1, 1959. In 1960, his net earnings from his private medical practice are $30,000. The regular limit on Dr. Jones deductions would be $2,500 since this is less than 10% of his net earnings from self-employment. But Dr. Jones' maximum would be $3,750 (150% of $2,500) because of his age.

3. How would "net earnings from self-employment" be defined?

The same type of income that is subject to the Social Security tax on self-employment income, plus professional earnings by doctors and ministers who are not covered by Social Security.

4. What would be the status of a person who was covered by a qualified employee plan and who also had self-employment income?

(a) He could take a deduction for contributions to a self-employment retirement plan in a given taxable year only if his employer made no contribution on his behalf that year

and he did not receive any benefits attributable to employer contributions that year.

(b) If before the taxable year the individual had received benefits or nonforfeitable rights in a qualified plan for employees, his maximum lifetime deduction would be reduced by 5% of $50,000 for each year of employment to which such rights were attributable.

5. How could retirement funds be invested?

They could be invested either in a trusted fund or in a "restricted retirement policy" issued by a life insurance company.

6. How would a "restricted retirement policy" be defined?

The policy could be an annuity, endowment or life insurance contract (other than term) that pays retirement benefits in one or more of the following methods:

(a) To the insured in a lump sum not later than age 70½.

(b) To the insured as a life annuity beginning not later than age 70½. (The contract could provide for a maximum term certain not extending beyond the insured's life expectancy.)

(c) To the insured and his wife as a joint or joint and survivor annuity, starting before the insured reaches 70½. (The contract could not provide for a term extending beyond the insured's life expectancy.)

(d) To the insured (or to his beneficiary in event of his earlier death) as a fixed-period annuity starting before the insured reaches 70½ and not extending beyond the insured's life expectancy.

A contract paying an annuity could not provide for increases in benefits after the annuity starting date except by reason of dividends or increases in investment income allocable to the policy.

Observation — The House committee report on the Keogh bill states that a variable annuity contract would qualify as a restricted retirement contract, regardless of increasing annuity payments, if such increases were due to increases in investment income, including capital appreciation.

7. What other conditions would have to be met by a "restricted retirement policy?"

(a) The policy must be nonassignable .

(b) The policy could not provide for life insurance protection after age 70½.

(c) No person other than the insured could have incidents of ownership in the policy (except the right to designate one of the modes of payment described in Question 6 or to designate the beneficiary to receive the proceeds payable on the death of the insured before age 70½).

8. Could a taxpayer deduct that portion of the premiums that pays for the term insurance protection element in the policy?

No. Only that portion of the premium that goes into the retirement reserve is deductible within the limits described in Question 2.

9. Would the premiums be deductible on a policy already in existence?

Yes. But no deduction would be allowed for premiums paid on any old or new policy until it was identified as a "restricted retirement policy."

TAXATION OF WITHDRAWALS

10. How would lump sum benefits paid to the insured after age 65½ be taxed?

If a new "restricted retirement policy" is taken out, the entire lump sum would be included in gross income in the year of receipt — but a special provision would keep the recipient from being thrown into a much higher tax bracket as a result of the distribution: If the insured deducted retirement deposits in at least five prior taxable years, the tax on the lump sum would not be more than five times the increase in tax resulting from inclusion of only 20% of the lump sum in the recipient's gross income in the year of receipt.

If an old policy is used, that portion of the lump sum constituting "restricted retirement benefits" would be fully included in gross income in the year of receipt but subject to the special provision described above. The balance would be taxed as any other lump withdrawal under a life insurance policy.

11. How would benefits paid to the insured as an annuity starting after age 64½ be taxed to the insured?

If received after the annuity starting date, payments would be taxed under the annuity rules. But the insured would not count as part of his investment in the contract any premiums that he had deducted.

If the insured started receiving payments before the annuity starting date, an amount not exceeding the aggregate deductions previously allowed would be included in the

insured's gross income in the year of receipt. The balance would be taxed under the annuity rules.

12. How would a partial cash withdrawal after age 64½ be taxed to the insured?

Generally, it would be included in his gross income in the year withdrawn (to the extent it is attributable to retirement deposits).

13. What would be the tax consequences of an amount received under a restricted retirement policy before age 64½?

If the amount received in a taxable year was at least $2,500, generally the tax would be 110% of the tax that would have been due had the withdrawal been received ratably over the taxable year and the four immediately preceding taxable years. If the amount was less than $2,500 in the taxable year, then the whole amount would be included in that year's gross income with the tax being 110% of the increase in tax attributable to its inclusion.

14. How would dividends be taxed under a resricted retirement policy?

The dividends would be treated as ordinary income in the year received, provided the aggregate receipts under the policy do not exceed amounts previously deducted.

15. How would death proceeds paid under a restricted retirement policy be taxed?

If the proceeds were received in a lump sum, the cash value at the date of death would be taxed to the beneficiary in the same manner as if the insured had received a lump sum distribution after age 64½ but before the annuity starting date. If received as an annuity the cash value would be treated under the rules set forth in Question 11. Special rules would apply where a spouse elects to take a life annuity instead of a lump sum.

Any excess of death proceeds over the cash value would be free of income tax under Section 101 of the Code.

16. What if the insured borrowed on a restricted retirement policy?

It would have no effect if he did not borrow more than the current annual premium and the loan were repaid within 12 months after the due date of such premium. Otherwise it would be treated as any other withdrawal.

17. What would happen if any of the value of a restricted retirement policy were applied to purchase benefits other than restricted retirement benefits?

The entire cash value would be treated as a withdrawal except for that portion of the value that was irrevocably converted within 60 days into a contract providing restricted retirement benefits.

NOTE — The answers to Questions 16 and 17 would not apply to borrowing or purchases up to the amount of the cash value before the policy became a restricted policy.

18. What if the insured assigned all or part of his interest in a restricted retirement policy?

It would be treated as a withdrawal of the entire cash value.

19. Could a whole life policy qualify as a restricted requirement policy?

Yes, if the insured and the insurance company agree that lump sum or annuity benefits in the prescribed form would be paid under the policy starting not later than age 70½.

CURRENT MANAGEMENT OF THE TOXEMIAS OF PREGNANCY—

(Continued from Page 286)

and the intramuscular injection of 50% magnesium sulfate for the management of the hypertension. Narcotics and sedatives are generally withheld until after delivery, if the baby is premature. If visual symptoms, cerebral symptoms or oliguria are present, 1000 c.c. of 20% glucose are administered within 40 minute period and repeated every 8 hours as necessary.

SUMMARY

The definitive treatment of the toxemias of pregnancy is termination of the pregnancy at the opportune time. This opportune time is reached when the disease had progressed to the point where clinical experience indicates that serious maternal complications or the death of a viable infant are probable if delivery is delayed. This time is determined by the inherent severity of the disease rather than by the type of palliative therapy; and a continuation or medical management beyond this point is likely to result in an obstetric catastrophy.



"Adequate, High Quality Care For The Needy" The Four-Stage Program

(Editor's Note: Indigent care in South Dakota has been a matter of considerable discussion during the past two sessions of the legislature. It undoubtedly will be discussed again during the 1961 session. This article is prepared as an informational piece by the American Medical Association).

Development of an indigent care plan has four stages: **Liaison, Information, Recommendation** and **Action.** The omission of any stage can seriously damage the program's effectiveness.

STAGE ONE: LIAISON

If the indigent needed only physicians' services, doctors could, as in the past, provide care through individual charity. Today, however, medical care involves whole spectrum of auxiliary services and supplies, — hospitals, nursing and convalescent homes, rehabilitation, pharmaceuticals, prosthesis and sometimes dentistry.

> **All** those who will be providing such service and supplies should take an active part in developing the over-all plan.

An effective program requires full cooperation between these individuals and organizations and the governmental agencies aiding the needy. It should also, where appropriate, use non-governmental community services and those of voluntary health agencies.

> Liaison with public and private agencies in the community facilitates gathering information, planning, and enacting pro-

posed programs.

As an **action** program, calling for real improvement, rather than merely planning, broad community support is needed. Community leaders should be enlisted in the project from the outset.

Including public representatives will emphasize the **public service** nature of the project, and help gain support from non-professional members of the community.

Ground rules as to the size of the planning group are difficult to formulate. Ordinarily, the planning group for a state-wide program will be larger than one for a single county, but too large a committee can cause delays. (Some groups solve the problem with an executive committee representing the professions and the public, and subcommittees within the participating organizations and agencies to study particular areas of interest.)

STAGE TWO: INFORMATION

No state is **entirely** lacking in health care for its needy; few, on the other hand, have achieved the medical profession's goal, i.e. medical care meeting "as high standards of quality and adequacy as can reasonably be made available to others in the community." To be effective, the study must determine how much of the need is already met.

A **wide variety** of governmental and private sources of assistance are available throughout the nation. The planning group should be **aware** of such sources as exist in the study area, the population receiving aid, and the services provided. The following brief resume does not include all types of programs, but may serve as a guide for local surveys.

Types of Assistance

Public Assistance: The four Public Assistance programs — Old Age Assistance, Aid to Dependent Children, Aid to the Blind, and Aid to the Permanently and Totally Disabled — are authorized by Titles I, IV, X and XIV of the Social Security Act, as amended. The first three were inaugurated in 1935 and the fourth in 1950. **Old Age Assistance** (OAA) provides help for those needy aged 65 or over; **Aid to Dependent Children** (ADC) helps children who are in need because of the absence, disability, or death of a supporting parent and provides a small payment to one parent, relative, or guardian who cares for the child or children. In **Aid to the Blind** (AB) and **Aid to the Permanently and Totally Disabled** (APTD) eligibility is based not only on the need but also on the specified physical conditions. Eligibility standards, after certain minimum Federal requirements are met, are set by the States.

The Federal government pays **part** of the cost of Public Assistance, up to an average State expenditure of $30 per ADC recipient and $65 per OAA, AB, and APTD recipient. Within these limits, the Federal share varies with the State's per capita income, but always exceeds 50%. If the average grant exceeds these maximums, the excess comes entirely from State and local funds.

Federal law **allows** but does **not require** Public Assistance funds to be spent on health services. State programs vary widely; some make no provision for medical care, leaving this to the needy person's own resources, while others have formal programs providing a considerable amount of care.

General Assistance: This program (sometimes known as General Public Assistance or General Relief) is the main source of public aid for those needy **not eligible** for Public Assistance. Some States have a uniform, State-wide, State-administered program; others make it a township, county, or municipal responsibility, with no State funding, administration or standards.

Aid given, particularly where there is no State responsibility, varies widely; some counties give minimal aid, while others have formal, well-organized programs. Similarly, some areas have comprehensive medical care programs, paying directly many types of medical services, while others provide care through a salaried physician or a local public hospital. Some have **no** formal program.

In some States, one or more of the Public Assistance programs makes money grants directly to the recipient, based on a standard buget. Where this grant is not sufficient to pay for any significant medical expenses, the recipient must obtain aid from the General Assistance program.

Aid to the Medically Indigent: The "med-

ically indigent" are those persons able to meet other ordinary living expenses, but unable to meet, from their own resources, the costs of medical care. This phrase, although frequently used, is sometimes misleading, since it includes **two** distinct groups: the **marginally** indigent, with income barely above the level for assistance eligibility, who need help for **any** medical care, and the **normally self-supporting,** who need assistance only when faced with financially **catastrophic** illness, entailing intensive hospital care, long-term treatment, or expensive medication.

Some States aid the medically indigent through the Public and General Assistance programs, while others have established separate and distinct programs designed to provide medical assistance to this group. In most areas, however, assistance for this group in financing medical care is only available after they have so exhausted their resources that they become eligible for aid as **totally indigent.**

Other Governmental Programs: The **Crippled Children's** and **Vocational Rehabilitation** programs, financed by State and Federal funds, provide a wide variety of services (including medical care) to children suffering from crippling diseases and to adults barred from employment by some remediable illness or injury. State and county **health departments** operate in such fields as maternal and child care, cancer detection, heart clinics, and immunization. State and Federal **hospitals** may also be possible resources for the care of particular indigent groups or those suffering from certain categories of illness.

Non-Governmental Programs: Many of the voluntary health organizations, oriented toward specific diseases maintain clinics and will help finance treatment of these illnesses. Charity organizations may also have programs for specific groups, and service clubs sometimes sponsor provision of particular health services to the needy, for example, children's eyeglasses or dental care.

Data Required

Before making recommendations, the planning group must know the problems which face its own area, local programs and methods being used to solve these problems, the services needing expansion or improvement and unused resources.

A. THE NEEDY

Who are the needy? Who is receiving governmental aid in the area and who, though not receiving public aid, still requires some form of assistance to meet health costs?

Regarding the **public aid** recipients, relevant data are: **how many** receive aid through each local program, **why** they require assistance (illness, poor job qualifications, parental death or desertion), the **stardards** which determine eligibility, and the **amount** of aid provided.

The needy **not** on these rolls comprise a less easily definable group. Data can be obtained, however, from hospitals and physicians concerning those treated free or on a part-pay basis and from local charities and voluntary health organizations.

From this material, the planning group can determine, first, whether all these requiring can **can** get it or whether present programs exclude some classes of needy citizens, and, second, what type of health services should be expanded or improved. (For example, a large proportion of aged indigents might suggest more long-term care, while a younger indigent population might suggest emphasis on vocational rehabilitation.)

B. THE MEDICAL PROGRAMS

How is the patient being treated now? Indigent medical care must be considered in the context of the whole assistance program. The AMA House of Delegates has recommended that the medical profession maintain "a continuous and active interest and participation . . . in the whole problem of aid to the needy, including administration, eligibility, financing, and the range and quality of medical services provided."

In some States, the **maximum** grant made to an assistance recipient is less than the State estimate of his probable living costs — and the estimate itself may be outdated or unrealistic. The planning group should take care that improvements in indigent medical care are not financed by reduced grants to assistance recipients. If more funds are needed, the group must be prepared to so recommend to local and state legislative bodies.

Suggested Questions

(The following questions suggest ways in which existing programs may be appraised, preliminary to recommending worth-while improvements.)

1. **For what care is each type of assistance recipient eligible?** Hospital only; home and office medical care; convalescent home nursing; dental; prescriptions; appliances; rehabilitation?
   For all illness, or for "life-endangering situations" only?
2. **Who provides the care?**
   Any physician, hospital, druggist, nursing home of patient's choice or only specified ones?
3. **How are providers of care paid?**
   "Vendor" payments (by agency directly to providers of services) or "money payments" (by patient from his assistance grant)?
4. **How is the amount of payment determined?**
   If patient pays, does his monthly check include a flat-rate budgeted amount for medical care or is check increased to cover medical costs?
   If agency pays, are hospitals paid per diem or on a cost basis? Are physicians paid according to detailed schedule of allowances or on a per visit basis? How are other providers of services paid?
   How do the allotted amounts compare with actual institutional costs and usual physicians' fees?
5. **Is there any organized effort to detect disease or encourage early treatment and health maintenance? Any health education as part of the program?**
6. **How much care is actually being provided?**
   Statistical data on hospital and nursing home days, physicians' visits, operations, prescriptions, analyzed by type of indigent, illness or injury, and costs.

C. EXPANSION OF SERVICES

Some places where services can be expanded or improved may become apparent in the early stages of the study. A large part-pay or charity hospital load may indicate community acceptance or responsibility for the needy. Hospitalization only in "life-endangering situations," although an advance over complete absence of a formal program, is obviously less adequate care than "can reasonably be made available to others in the community."

The physicians who are actually treating the indigent patients will be the prime source of information as to services needed to make their care more effective. Representatives of the welfare agencies, charitable organizations, hospitals, nursing homes, and other interested parties may have further suggestions as to ways in which the programs may be improved. For example, in an area with no nursing home, methods of providing long term impatient care become an important facet of the study; where the formal program provides only hospital care on a "staff case" basis, it is important to determine how the indigent obtain outpatient care, or if they avoid going to physicians for such care. Methods of providing consultations, specialist's treatments, and specialized hospital services may require examination.

Philosophy of Program

Program policies may actually run counter to good medical practice. For example, free choice of physician for home and office calls but not in the hospital can interrupt continuity of care; lack of nursing home care may mean unnecessary hospitalization and higher costs. If the **patient** is expected to pay for all prescriptions, he may purchase popular but unnecessary items and do without necessary medication. Restriction of hospital care to "life-endangering" illnesses could discourage early diagnosis and treatment; some welfare officials also believe such a restriction can lead to unnecessary hospitalization for illness which could be treated in home or office.

The goal of an assistance program is the restoration of the needy to a normal, self-supporting life. The planning group might well ascertain whether local programs maintain this "restorative" attitude, trying to discover and help those who can be rehabilitated and gain some measure of independence, or whether they provide only "emergency" or "custodial" care, keeping recepients alive but doing little to help them get off welfare rolls. Medical, social, and vocational rehabilitation can pay for themselves by reduction in the number of public charges.

D. UNUSED RESOURCES

Are all community or state health resources being fully utilized? A recent study in New

Jersey revealed over 500 agencies concerned with some phase of care for the needy. With so many agencies and organizations in the field, physicians have real difficulty knowing what services are available and where. A thorough study of community resources will show the types of physical, occupational and psychotherapy available; the location of nursing homes and the care each can provide; specialized medical care available at physicians' offices and through hospital outpatient departments.

(The Committee on Indigent Care has for several years recommended the establishment of "information centers listing medical and auxiliary resources available to the needy in the community.")

A broad-gauge study might also include regional and State special facilities. The number of indigent patients requiring treatment not available in the community, may be so slight that it will be worth while to send them to a central facility elsewhere in the State. (This method may be particularly worth considering in connection with some rehabilitative measures, such as speech therapy.)

Examination of the community's resources, while specifically aimed at improving indigent care, also aids private patients to find needed special services, and pinpoints areas where new or expanded facilities are needed to serve the whole population.

Professional Participation

Since the medical profession wants to provide the needy with health services equivalent to those reasonably available to their fellow-citizens, the study should determine whether there is any lack of participation or cooperation. If most medical care is being provided by a small group of physicians, if some hospitals or nursing homes refuse welfare patients, the professional organizations involved should determine their members' objections, in order to make free choice a real rather than a theoretical part of the program.

STAGE THREE: RECOMMENDATIONS

After existing community programs are evaluated, a plan must be drawn up which will make the most efficient use of available resources. It may be necessary to establish both **long-range** and **immediate** goals. A study along the lines suggested can provide the basis for a broad-gauge, coordinated program, providing adequate, high-quality care for the needy — yet it may not be possible to put the **whole** plan into effect at once. Practically speaking, priorities must be established: which steps in the total program can result in the greatest **immediate** improvement in the care for the needy?

Priority Claims

Some studies indicate that hospitalization is a major problem, particularly in areas where the population is insufficient to justify a separate facility; here the needy may do without hospital care, or be treated in neighboring counties with hospitals. Study commissions in several States, concerned about such imbalances, decided that a hospital care program was the most urgent need, to bring about improved care. In other States, the most pressing need may be improvement of the prescription situation or better coordination between hospital and nursing home care for the needy.

The groups making the study frequently have individual goals, related to their own field of activity. Many hospital and nursing home administrators are concerned about obtaining cost payment for treating welfare patients. Charitable agencies often believe eligibility standards are too strict and exclude individuals who should receive public aid, while pharmacists may feel that welfare prescription policies are working a hardship on them. Some physicians believe that eligibility standards are too broad or are unenforced, or that there is too much paperwork or government control involved.

Many welfare officials, on the other hand, argue that these groups are unreasonable to expect full payment from public funds with almost **no** public control of expenditures.

A major task of the planning group, therefore, may be the synthesis and balancing of individual changes in the program demanded by participating organizations, and the formulation of a decision, as the representative of the health professions, as to which of the immediately practicable improvements are most important to **better care for the needy.**

SUGGESTIONS FOR PLANNING

(The American Medical Association's "Guides for Medical Societies in Developing Plans for Tax-Supported Personal

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Health Services for the Needy," gives a brief general description of the format of an ideal indigent care plan. Some of the following questions may also be of assistance in developing recommendations. Subject-headings follow those used in the **Guides.**)

I. Administration

What is the most appropriate agency to administer indigent medical care at the state and local level? Should a single agency have over-all responsibility? Should there be a single State-wide plan, or should complete local responsibility be maintained? Is present agency staff sufficient for good administration?

Public and General Assistance medical care may be completely distinct, and administered by separate agencies; Public Assistance is on a State-wide basis, but General Assistance may be the responsibility of individual counties, townships, and municipalities. The programs may be administered directly by the welfare agency, or contracted out to the health department or even to a private agency, such as Blue Shield or the state medical association.

What liaison is maintained with the professional groups involved? How important a part do such groups play in formulating policies and controlling abuses? Is the medical care program under professional supervision within the welfare agency?

II. Financial Aspects

Will proposed improvements increase the over-all cost of assistance? Where will the added funds come from?

Recommendations can be strengthened by indicating resulting long-term economy. For example, early diagnosis, convalescent home and home nursing care can reduce hospital costs; rehabilitation can reduce dependency on public aid; intensive case-finding may reduce the number of needy for whom the community has to finance terminal care.

State legislatures are more amenable to increased expenditures in Public than in General Assistance programs, since the latter is financed locally, while at least half of any increase in Public Assistance costs, up to the maximums for Federal matching, will come from Federal tax funds. As a result, Public Assistance medical care is often more adequate than that provided for General Assistance recipients.

If the planning group decides that General Assistance improvement is the most urgent need, it should be prepared to meet resistance from those who want improvement only if the Federal government shares the cost.

Should changes be made in methods of paying providers of services?

Before 1950, the Public Assistance payments went only to the needy individuals themselves; since that date, "vendor payments" from these funds **may** be made to providers of medical services by the welfare agency "on behalf of" these individuals.

Some welfare officials prefer the old method, believing that the needy person retains more self-respect when he pays for his own care. Some physicians also prefer it, believing it minimizes governmental intervention and preserves the physician-patient relationship. Other physicians and hospital officials prefer "vendor" payments, believing that without them, because of the smallness of the recipient's grant or because of poor financial management, providers of services will not be paid.

Many welfare officials agree with the latter view, and feel further that physicians, hospitals, pharmacists, and others are more willing to aid welfare patients when they are certain of receiving payment.

Should there be any change in the amounts paid to providers of services?

The AMA recommends that payment to institutions "should be based on the full certified cost of services." Hospitals want payment on a cost basis, since indigent care costs, not met from public funds must be absorbed by paying patients and philanthropy, and both sources afford a decreasing "cushion" for charity care. nursing homes claim that low welfare payments either force them to refuse many needy individuals or contribute to substandard care, since the homes cannot provide good care at the fees paid.

Private physicians are not committed to

the payment of salaries, maintenance and equipment costs and other overhead expenses as are hospitals and other institutions. They can therefore, more readily provide a certain amount of care without payment, as individual charity. Some medical societies makes a policy of recommending to their members the treatment of welfare patients without charge. Other societies, while not eliminating the possibility of payment in the future, feel that major emphasis should be placed at present on meeting institutional care costs.

While the American Medical Association takes no formal position as to whether physicians should require payment for treating welfare patients or as to the amount of payment which would be equitable in such cases, a thorough discussion of this question by the medical society is recommended. A firm commitment to provide free care for all the needy may be good public relations and cut total program costs; nevertheless, such income has, in some areas, been channeled to worth-while society projects, and has helped many young physicians establish their practices. In addition, in the event of a local or national economic depression, a permanent agreement to treat welfare patients without charge could work a serious hardship on the physician.

The AMA has recommended that, even where physicians have agreed to treat the needy without payment, "there should be a definite program to assure that every needy person shall have all the necessary physicians' services to the extent available in the community."

III. Eligibility

Are eligibility standards realistic? Can those in real need of public aid obtain it? Are those who need only medical assistance eligible?

Some eligibility standards are set at an income level so low that help is available only to those completely pauperized. The marginal group immediately above this level must subsist on an income insufficient for good health and nutrition, let alone early treatment of illness, and can receive care only when their resources are completely exhausted.

Some States provide Public Assistance for those needing **medical care only;** persons in the income level immediately above that eligible for monetary aid can be included in the medical care programs for OAA, AB, ADC, or APTD if they meet other eligibility standards. Money spent on their care is averaged in with other Public Assistance expenditures for Federal matching.

There are some non-Public Assistance programs to help finance care for the marginally indigent. For catastrophic illness, the purchase by the individual of major medical insurance or prepayment coverage should be the first line of defense, but supplementary community planning may **avert** indigency for those not adequately covered.

Are restrictions on eligibility and liens against recipients adequate or too strict?

Several states have **no** minimum residence requirement for Public Assistance; of the rest, some require one year's residence and some three to five years out of the nine preceding applications. For General Assistance, 14 states have **no** minimum residence; the rest will almost all make emergency or short-term exceptions for new residents.

Some States hold that residence requirements are a legitimate means of excluding indigents who are not bona fide residents; others hold that they are actually evasions of community responsibility. For example, is the community responsible for a needy individual who moved to the area because of advertised employment opportunities?)

Over half the States place some degree of legal responsibility on adult sons and daughters for the support of aged parents, often calling for court action against the non-contributing son or daughter. Some States (the number varies widely with the program involved) have laws which make any assistance provided a claim against the estate of the assistance recipient.

Are these worth-while economy measures, or do they discourage people from seeking aid until their illness and destitution is such that restoration of normal life becomes almost impossible?

Are investigations by welfare agency staff actually sufficient to determine eligibility, and to maintain a continuning check on eligibility?

Many professional people are dissatisfied with local indigent medical care programs, not because they oppose aid to the needy but because they feel care is being provided to some who could afford to pay. The American Medical Association, recognizing this opinion, has recommended that medical society indigent care committees "inform themselves regarding laws and regulations governing determination of eligibility and examine both the validity of these standards and their application."

Such an examination will involve both methods used and the qualifications and number of investigating staff. A single case worker may be responsible for too many cases for adequate initial study and periodic review.

Are eligibility standards for aid from charity and voluntary health organizations reasonable? Should changes be recommended to avoid unnecessary overlapping and to close present gaps?

IV. Care Provided

Are any significant health services unavailable to the needy? Is emphasis on health maintenance misplaced or lacking?

The four Public Assistance programs are not required to provide indentical (or, in fact, **any**) medical services; General Assistance may vary throughout a State. One category of indigent patients may, therefore, be eligible for more nearly adequate care than another. The types of services urgently needed may also vary with the program — and aged ordinarily need more long-term care, while children may need more home and office care.

More emphasis may be needed on preventive measures, periodic examinations, early diagnosis and treatment, rehabilitation, nutrition and health education — as economy measures as well as ways of improving care.

How much choice does the patient have as to providers of care?

Freedom of choice and continuity of care can be limited both by the welfare agencies and by the professional groups. Where the welfare patient is allowed by the program to choose care from any physician or at any hospital in the area, but a significant portion of the medical profession or a number of hospitals will not accept welfare patients, the choice remains limited.

How are prescriptions for welfare patients filled?

Some welfare departments are trying to control rising prescription costs through such mechanisms as formularies or even state and county pharmacies, or by asking physicians to prescribe by generic rather than brand names. Some make it the assistance recipients' responsibility to purchase prescriptions from their money grants.

Among possible areas for recommendations are methods by which welfare patients will be assured necessary prescribed drugs economically, without limiting the physician in his professional judgment as to the type of treatment proper to the case.

V. Dignity of the Patient

Part IV. of the **Guides** includes the recommendations that all concerned in an indigent care program should "protect the rights and dignity of the patient." Experimentation with the use of voluntary agencies, such as Blue Shield or of medical society agencies (as recommended by the AMA in 1958) is one way of preserving this dignity, since such plans allow the indigent to be treated in the same way as a private patient. The dignity of the patient is also one of the reasons for advocating free choice in the program.

Maintenance of individual self-respect is, further, to the community's advantage, since it strengthens the individual's desire to regain self-supporting status and remove himself from assistance rolls. Programs will be more effective if the patient is an **agent** in improving his health, rather than merely a **recipient** of health services. Health education programs can encourage those on assistance to seek early diagnosis and treatment of illness, and emphasize individual initiative to maintain better nutrition and health habits, as well as intelligent cooperation with physicians's instructions.

STAGE FOUR: ACTION

No program is self-enacting. From the outset, the study should be designed to **achieve,** rather than merely **suggest** improvements. Consultation, from the inauguration of the study, with leading editors, businessmen, educators, and (in industrial areas) labor leaders, together with representation of the public in the planning group, will strengthen its position when trying to effect changes.

Professional groups must not only act, in their professional capacity, to improve the program itself, but must also lend support for needed legislative changes and appropriations. This can involve both testimony, as required, before local legislative bodies and discussions of the program with local non-professional groups to bolster public support.

(The Committee on Indigent Care, is a prospectus approved by the AMA House of Delegates in 1959, listed as a specific goal "medical initiative in explaining to the public the need for funds **essential** to adequate medical care programs.")

After program revisions are completed, the concern of the profession should not be allowed to lapse. The American Medical Association has called for "continuous and active interest and participation of the medical profession in the whole problem of aid to the needy." Continued active liaison and periodic reviews by professional advisory committees are essential to maintain high standards of care, as well as to suggest necessary adjustments to meet changes in medical practice or in the composition of the indigent population.

CONCLUSION

Since the authorization of Public Assistance vendor payments in 1950, the quality of medical care for the indigent has been subjected to increasingly critical scrutiny. With the increased importance of hospital care and drug therapy in medical treatment has come a greater demand for Federal financing of this care, primarily for the aged, but also for other indigent groups not now adequately covered.

The American Medical Association therefore urges all component societies to take **immediate** action either to initiate effective health care programs for the needy in their States or to improve existing programs, not only as an extension of the medical profession's traditional concern for the health of the whole community, without regard to ability to pay, but also to maintain this care as a community responsibility, instead of allowing it to become, by default, part of a wholly Federal medical system.

PLASMA PROTEIN BOUND IODINE IN THE DIAGNOSIS OF THYROID DYSFUNCTION—

(Continued from Page 279)

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A
logical
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overweight patients

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meprobamate 400 mg., with d-amphetamine sulfate 5 mg., Tablets

meprobamate **plus** d-amphetamine... depresses appetite... elevates mood... eases tensions of dieting... **without** overstimulation, insomnia or barbiturate hangover.

Dosage: One tablet one-half to one hour before each meal.

Lederle

PRESIDENT'S PAGE



Gentlemen:

May I express my deepest gratitude to the members of the Association for the honor bestowed upon me in being elevated to the presidency of our Organization.

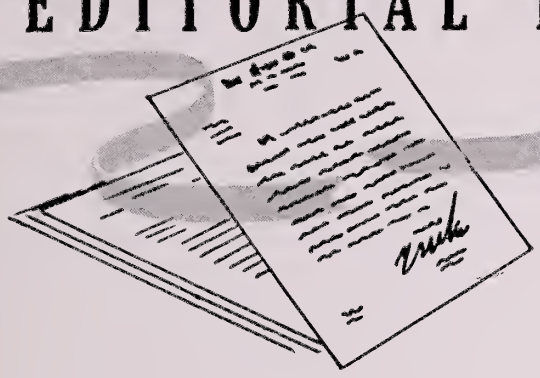
I pledge myself to continue to the best of my ability the effective work the State Association is doing.

This is an important year for our organization, particularly in regard to legislation, both national and state, and I am asking the cooperation of all members of the Association in carrying on the important work which lies before us.

It is my hope I will have the opportunity to see each of you during my visits throughout the State.

Very sincerely yours,
C. Rodney Stoltz, M.D.
President

EDITORIAL PAGE



OBESITY

The association of obesity with hypertension, atherosclerosis, angina, coronary thrombosis, peripherial vascular disorders, low back pain, foot strains and other skeletal disabilities is well known to the general public. Not long ago, the Postmaster General testified before sub-committee of the House that various weight-reduction frauds promising "to melt and float the fat right out of the body" annually succeeds in frauding "one hundred million dollars out of the pockets of some five million Americans determined to be thinner." Yet obesity continues to be the predominate American nutritional disease.

The popular opinion that obesity is due to endocrine disturbances can usually not be substantiated with laboratory evidence, and is relatively rarely observed. Less well known among the laity is the gain of weight due to the accumulation of fluid encountered in congestive heart failure and the nephropathies.

The gradual reduction (of hyper-alimentary) obesity does not conform to the American personality which wishes to accomplish its goal rapidly. The use of drugs to produce anorexia has not met with general adoption because of the insomnia and hyper-excitability often associated. Fad diets are frequently unbalanced, e.g. the banana-skim milk diet, which is deficient in many of the vitamins and minerals, and the "Rockefeller Diet" which contains only 35 grams of protein per day. In one study, it was found that a group of patients on the latter diet, while achieving their original weight reduction, soon returned to their previous ways of eating and in 3 to 12 months after dismissal 52% of them had regained their original weight. More recently, the introduction of a balanced liquid diet "Metrecal" has met with considerable popular approval, but will probably produce no lasting effect on the dietary problem unless the patient can be taught proper eating habits. Faddist's diets and excessive food restrictions soon become monotonous.

It is the physicians responsibility to teach the patient proper eating habits so that he will know how to select and follow a nutritionally adequate diet which will enable him to maintain his proper weight. This basic pattern of eating must be followed the rest of the patient's life, if a permanent weight reduction is to be obtained.

Robert E. Van Demark, M.D.

Letter to the Editor
S. D. Journal of Medicine and Pharmacy

Dear Doctor:

The fine support afforded the University of South Dakota Medical School through contributions in 1959 made by physicians to the American Medical Education Foundation is worthy of special mention. The total amount received of $9,263.00 was roughly $2,100.00 above 1958, but what far more impressed me is that the number of donators rose from 92 to 155. Now this does not reflect the number of actual individuals represented as contributors for many of the donations were received from clinics and the individual memberships are not itemized. One must also emphasize the extremely fine interest shown by the several district Auxiliaries. Actually, then, the support of several hundred people is represented in these contributions over the past year.

I am certain that faculty and students alike are enheartened by the firm support for medical education offered by the medical profession in this state, and for this school. When one adds to AMEF, additional contributions made to the Medical School Endowment Fund of the State Associations; and for special contributions for student scholarships and loan funds, the pattern "of giving" becomes indeed impressive.

W. L. Hard, Dean
School of Medicine
State University of South Dakota
Vermillion

F. E. BOUZA, M.D.

Funeral services for F. E. Bouza, M.D. were held in Rapid City on April 13th. Dr. Bouza, prior to his retirement several years ago, had practiced at White River and before that, in Sioux City. He was a graduate of the Notre Dame University School of Medicine doing his undergraduate work at Creighton.

Dr. Bouza served in World War I.

He is survived by his wife, two daughters, five grandchildren and ten great grandchildren.

Burial was in the Black Hills National Cemetery.

CARL C. MAGDSICK, JR., M.D.
1917—1960

Dr. Carl C. Magdsick, Jr., Sioux Falls anesthesiologist, died March 30, 1960 by drowning in the flood-swollen Big Sioux River.

Dr. Magdsick was born at Charles City, Iowa, received his A.B. degree at Grinnell College, Iowa and his M.D. at the University of Chicago. He served in the Navy for 30 months. He practiced in Charles City, Waterloo and Des Moines before moving to Sioux Falls in 1953.

He is survived by his widow and two children.

BLUE SHIELD AND THE LONGER VIEW

Like a somewhat wayward child, Blue Shield often plays the role of favorite whipping boy for the doctors who created it. Wherever several physicians are gathered together — in staff room, committee meeting or on the second tee — someone is certain to take out after the local Blue Shield Plan.

When the definitive history of prepayment is written, perhaps one may trace a falling rate of divorce among American physicians who have worked out so many of their frustrations, not on their wives, but on their Blue Shield Plans.

Some Blue Shield administrators confess to a wry satisfaction in all this — recognizing that a parent is always fussier with his own offspring than with a child for whom he has no emotional affinity.

Blue Shield is a vast community umbrella designed to ward off the rain of medical adversity which falleth alike upon the just and the unjust. It serves the need of the average man as best it may, but it sometimes falls a little short of the special needs or wishes of the individual patient and his doctor.

In these parlous times, when the Forand philosophy seems to have so thoroughly infected the politicians of both parties, American medicine has reasons more apparent than ever before to honor those medical pioneers who built Blue Shield, and to support the civic and professional leaders who today are working so hard to make Blue Shield an

(Continued on Page 322)

MEDICAL LIBRARY BOOKSHELF



MEDICO

Readers Digest for May, 1960 has a condensation of Dr. Thomas Dooley's book, **The Night They Burned the Mountain,** Farrar, Straus and Cudahy, 1960, with a foreword by Dr. Charles Mayo of the Mayo Clinic in Rochester. In this book, Dr. Dooley tells of the birth of Medico: "Among the doctors who had volunteered their services, there was one, Dr. Peter Comanduras, who had the ability, experience and vision to organize additional medical outposts patterned after my 'pilot plant' operation in Nam Tha. My experience had convinced him that for a mere $50,000, it was possible to establish a hospital in a remote and medically impoverished part of the world, operate it for eighteen months, then turn it over to the local government as a permanent going concern. So Dr. Comanduras resigned his faculty post at George Washington University Medical School, and became Secretary General of Medico (Medical International Cooperation), which was organized under the auspices of the International Rescue Committee." Dr. Comanduras surveyed the need and opportunities for Medical teams in twenty-three countries.

Dr. Dooley deserves much credit for the establishment of Medico, which is supplying American medical aid to improverished lands such as Laos. The proceeds from one of his former books, **Deliver Us From Evil,** together with support from the Readers Digest enabled him to open two small primitive hospitals in Laos. These were so successful that Medico which is a private and voluntary organization was set up to establish hospitals and clinics in other countries.

Because of his work with Medico, a recent Gallup poll ranked Dr. Dooley as seventh on a list of the ten most admired Americans. After recovering from a recent operation for a malignant melanoma, Dr. Dooley toured the United States raising $850,000 for Medico.

Some doctors and other volunteers have sacrificed practices and positions at home to give services to sick people in backward countries where no medical facilities are available. For financial support, Medico depends upon the American people. Contributions are urgently needed to finance Medico's expanding program of medical aid in Laos, Cambodia, Afghanistan, Kenya, Haiti, and Peru. Contributions or requests for information may be sent to Medico, Box 2, Times Square, New York 36, New York.

Life Magazie for April 18, 1960, p. 113, in an article entitled "A doer of good deeds with

some critics; Tom Dooley at work," states that Dr. Dooley is the sole doctor at the Medico Hospital at Muong Sing, five miles from the Red China border, but that he spends most of his time elsewhere on Medico business, including the building of a hospital for Medico at Ban Houi Sai, directly across from the Mekong River from Thailand and seventy-five miles from Muong Sing. While away, four American volunteers, none of them with a medical degree, and several Laos nurses run the hospital.

Critics of Dr. Dooley charge 1) his personality irritates some people and that his ego is enormous and that whereas he has done much to serve medico, he has also done much to serve Tom Dooley, 2) his quality of medicine is questionable — he practices 19th century medicine although he has had a 20th century medical education. Also that the situation would be improved if he spent more time at one hospital, 3) he practices "hit and run" medicine. He turned the original Medico hospital at Nam Tha over to a citizen of Laos with but rudimentary medical training and medical standards dropped disastrously. In planning the third Medico hospital at Ban Houi Sai, he has announced that Medico doctors will serve Muong Sing and Ban Houi Sai commuting by air.

Even if Dr. Dooley is no saint and couldn't be called a second Dr. Schweitzer, he nevertheless has accomplished a great deal in Laos in establishing and raising funds for Medico, and in improving the health standards of many backward people even if he uses 19th century medicine.

GIFT BOOKS TO LIBRARY

The Story of the Chemical Industry in Basle, published by Ciba Limited on the occasion of its 75th anniversary. Urs. Graf Publishers, 1959.
This beautifully illustrated book, many of the reproductions taken from museums and art galleries in Switzerland with much of historical interest including figures of intellectual and cultural life in Basle, is a valuable addition to our historical collection. It includes descriptions of the drug trade, pharmaceuticals, dyestuffs, and dyeing and growth of the chemical industry.

Synthesis and Organization of the Bacterial Cell, by E. F. Gale, Wiley, 1959.
This book includes the 1959 Ciba Lectures in Microbial Biochemistry presented at the Institute of Microbiology, Rutgers University, with emphasis on the synthesis of proteins and nucleic acids.

The Centennial Lectures Commemorating the One Hundredth Anniversary of E. R. Squibb and Sons, Putnam, 1959.

From Fish to Philosopher: the Story of Our Internal Environment, by Homer W. Smith, the famous authority on the kidney, Ciba Pharmaceutical Products, 1959.

Ciba Foundation **Tenth Anniversary Symposium on Significant Trends In Medical Research,** edited by G. E. W. Wolstenholme, Little Brown, 1959.

Mrs. Esther Howard
Medical Librarian

BLUE SHIELD AND THE LARGER VIEW—

(Continued from Page 320)

ever more effective instrument.

None can doubt that without the reality of a strong and growing Blue Shield movement during the 1950's, America would long since have had universal compulsory health insurance. And few today would dispute the proposition that if American medicine escapes the thralldom of state medicine during the 60's, it will have the voluntary prepayment movement — chiefly Blue Shield — to thank for its good fortune.

Let's all keep a closer eye on Blue Shield — not merely to discern the motes in its eye — but to encourage it to do the best job it can do for us and for the American people.



This is your

MEDICAL ASSOCIATION

NEWS • NOTES • • • BIRTHS • • • CHANGES • NEWS

Pop's Proverbs

If there be no God why has every level of mankind always believed in one.

TWELFTH DISTRICT MEETS IN WEBSTER

The Twelfth District Medical Society covering Sisseton, Milbank, Webster, Veblen, and Waubay, met at Webster on April 20. The annual election of officers was held and Dr. Dagfinn Lie of Webster, was elected president. Dr. L. W. Keller, Webster, was named secretary; Dr. H. H. Brauer, Sisseton, was named delegate; and Dr. P. D. Peabody of Sisseton was named alternate delegate. The scientific program consisted of two movies — one on "Clinical Problems in Chest Diseases" and the other on "Grand Rounds." Fourteen members were in attendance at the meeting.

A.M.A. SAYS "NO" TO "NURSES" GROUP

An organization called the American Association of Doctor's Nurses recently issued a news release stating that "the American Medical Association will loan a part of its large collection of exhibits" to this group's convention in Miami, Florida, June 23 to 26, 1960.

This is an incorrect statement. The American Medical Association has not loaned any exhibits to this group.

Originally known as the American Registry of Doctors' Nurses, this organization, which mailed its promotional materials from Marianna, Florida, was said to be in violation of the Nurses Practices Act in Florida in 1958 by the Attorney General in that state.

The group moved to Washington, D. C. Last summer the Federal Trade Commission charged this group with misrepresenting itself as a nonprofit organization and with giving customers the means to misrepresent themselves as registered, graduate or licensed nurses. The organization changed its name to the American Association of Doctors' Nurses and in a news release issued some month ago stated that "The American Association of Doctors' Nurses . . . has assumed the membership of the old American Registry of Doctors' Nurses."

POST-GRAD COURSE IN GASTROENTEROLOGY

The American College of Gastroenterology announces that its Annual Course in Postgraduate Gastroenterology will be given at the Bellevue-Stratford Hotel in Philadelphia, Pa., on 27, 28, 29 October 1960.

The faculty for the Course will be drawn from the medical schools in and around

Philadelphia. The subject matter to be covered in the Course, from a medical as well as surgical viewpoint, will be essentially, the advances in diagnosis and treatment of gastrointestinal diseases and a comprehensive discussion of diseases of the mouth, esophagus, stomach, pancreas, spleen, liver and gallbladder, colon and rectum.

For further information and enrollment write to the American College of Gastroenterology, 33 West 60th Street, New York 23, N. Y.

BROOKINGS DISTRICT HEARS KNOWLES

Twenty-four members and wives of the Third District Medical Society met at Dr. Scheller's office in Arlington, on April 20th, to hear Dr. Knowles, psychiatrist of Sioux Falls, talk on the present operation and future plans for the Minnehaha County Mental Health Center.

Dr. Knowles pointed to the fact that the Mental Health Center has been operating for eight years and is now expanding its' operation in hopes it may be able to provide day care for children and adults. The recent change in the name of the Center, to indicate the broadened purpose, according to Dr. Knowles, will now make it the "Minnehaha Guidance Center." Executive Secretary Foster was a guest at the business meeting and discussed several problems that were brought up by the members.

X-RAY TECHS CHANGE RULES

The American Registry of X-Ray Technicians is revising the requirements for certification of x-ray technicians. We wish to acquaint hospital administrators, x-ray department supervisors, and teaching technicians with the necessary requirements for student x-ray technicians to meet the qualifications for registration.

1. As of July 1, 1960, The Registry will no longer allow credit of any kind for experience under the supervision of anyone **not a recognized medical radiologist.**
2. To be considered as being under radiological supervision, a technician must be trained in an x-ray department in which a recognized medical radiologist interprets all of the films; does all the fluoroscopy; and is in the department for those purposes at least five times per week for a total of not less than ten hours.
3. As of July 1, 1962, any school for x-ray technicians, to be recognized by The American Registry of X-Ray Technicians, in addition to meeting other standard requirements, must be of at least two years in duration.

The registry two year mininum is based on full time, with an adequate volume and variety of instructions and experience. It is obvious that in a small hospital where the volume of x-ray work is small, and the variety is limited, a technician cannot secure in two years enough knowledge or proficiency to be entitled to certification.

In a recent report of the Education Committee of The American Society of X-Ray Technicians, the members were concerned that standards of training are still unsatisfactory in many schools of x-ray technology. Too many schools are still primarily interested in students as work-producing entities, and are not fulfilling their obligation to teach students the basic fundamentals of x-ray technology. This continues while other paramedical groups have reached a high level of professional attainments mainly because they have adopted programs which have the sole purpose of preparing students for their future careers, and not as a source of cheap labor.

It is becoming more and more difficult to obtain employment without Registry certification; and many hospitals and physicians are becoming reluctant to hire technicians who are not certified for reasons of accreditation. Year by year, there is an increase in the demand for better educated technicians. The only means to meet this demand is to increase the standard requirements of the education and training of student technicians.

THE SCIENTIFIC EXHIBIT

AMA Clinical Meeting, Washington, D. C. Nov. 28—Dec. 1, 1960

Application forms for space in the Scientific Exhibit at the Washington, D. C. Clin-

ical Meeting of the American Medical Association, November 28 to December 1 are now available. They may be procured by writing directly to Charles H. Bramlitt, M.D., Director, Department of Scientific Assembly, American Medical Association, 535 N. Dearborn St., Chicago 10, Illinois. Applications close on August 1.

The "Hull" award will be presented for the first time at this meeting to the best exhibit on a scientific subject which has not been previously shown at a medical meeting. The award will consist of a gold medal and an honorarium of $250. The winning exhibit will be approved for showing in the Scientific Exhibit at the 1961 Annual Meeting of the AMA which will be held in New York City.

Dr. Thomas G. Hull will personally present the award to the recipient.

CIVIL SERVICE ANNOUNCES FEDERAL INSURANCE PLANS

The Civil Service Commission announced on April 22nd approval of the 13 Federal employee organization health benefit plans and the 22 comprehensive medical plans to be offered under the Federal employee health benefits program when it goes into effect in July, 1960. Contracts will be signed as soon as final details are worked out, the Commission said.

The Commission has recently approved the Government-wide indemnity benefit plan offered by Aetna Life Insurance Company of Hartford, Connecticut, and the Government-wide service benefit plan offered by Blue Cross-Blue Shield.

Approximately 1,800,000 Federal employees are expected to enroll in the new health benefits program for themselves and their more than 2,200,000 dependents under one or another of the plans offered. The enrollment period will be June 1 through June 30.

The hugh enrollment expected and the wide variety of choice of plans and options offered make this program the largest and most complex employer-sponsored voluntary program of health benefits in the world, the Commission said. The Government will contribute up to half the cost of each health benefits plan, with the employee paying the balance of the cost of the plan he chooses through payroll deductions. The volume of first year premiums is expected to approximate $250,000,000.

All of the Federal employee organization plans approved are of the indemnity benefit type. These plans will reimburse the enrolled employee for costs of covered health care services. The plans will offer a high and low option of benefits, each with premiums related to the value of the benefits offered. Most of the employee organization plans will also offer basic and major medical coverage in both options. To join one of these plans the employee must be a member of the organization at the time he selects the plan.

The comprehensive medical plans are of the group-or individual-practice prepayment type. They offer a broad range of medical services and hospital care. Slightly fewer than half of the comprehensive plans will offer two levels of benefits. Each of the comprehensive medical plans provides health care services in a specific geographic area. Enrollment in a comprehensive plan is limited to employees who work or reside where they can obtain the benefits offered by the plan.

The first contract period for all plans to be offered under the Federal employees health benefits program will be for 16 months. The premium rates of the plans cannot be raised during that time. Because of this the plans are, in general, rated on a basis which recognizes the rising costs of health care which are to be expected between now and November of 1961.

In addition to the 16-month contract period, all plans participating in the health benefits program must also provide for the following benefits not generally found in existing health benefit plans:

* Employees who retire on immediate annuity after the program goes into effect may retain coverage for themselves and dependents with no reduction of benefits and at the same cost to them as for active employees.
* Coverage of dependents, at the same cost as for active employees, may continue after the death of an enrolled employee or annuitant.
* No waiting periods are re-

quired for maternity benefits and no exclusion from coverage on the basis of preexisting physical or mental conditions or age is permitted.

* Employees in a nonpay status are covered for up to 365 days without contribution by the Government or the employee.
* When an employee leaves Federal service for reasons other than retirement, a 31-day extension of coverage is provided at no cost to the employee or the Government in order to give the employee an opportunity to convert from group coverage to an individual contract without medical examination.
* A person confined in a hospital on the 31st day of continuance of coverage is entitled to benefits for up to 60 days more.

NEWS NOTES

Sioux Falls Medical Assistants Society met May 2nd to conduct a business meeting and to view a film, "First Contact" produced by the AMA for medical office personnel.

* * *

The Basic Science Boards' prosecution of "reflexology" practitioner **B. H. Unruh,** Elkton, resulted in a contempt of court citation early in May. Unruh was fined $300.00 and given a 90-day jail sentence which was suspended on provision he shut up shop immediately.

* * *

The South Dakota Society of Medical Assistants will hold their annual meeting in Sioux Falls on August 27th.

Drs. E. T. Ruud and **R. J. Bareis** of Rapid City appeared on a panel at the regional conference on aging sponsored by the Governors Committee in Rapid City May 13th.

* * *

Dr. Fred C. Nilsson, long time Sioux Falls E.E.N.T. man, announced his retirement on May 1st.

* * *

Dr. J. A. Anderson, Madison, will serve on the Medical staff of the Boy Scouts of America National Jamboree at Colorado Springs July 22-28.

* * *

The Inter-Professional Health Council met in Sioux Falls on April 25th to discuss Basic Science Board actions on illegal practitioners. **Drs. A. P. Reding, C. J. McDonald, C. E. Kemper,** and executive-secretary **Foster** represented the Medical Association.

* * *

J. C. Foster and **R. C. Erickson** attended Blue Shield Functional Cost Account meeting in Minneapolis on April 26th.

* * *

Dr. J. F. Crane, age 44, died in Los Angeles on April 20th. Dr. Crane was a native of Lead and son of a long-time member of the S.D.-S.M.A., Dr. Harold L. Crane.

* * *

Dr. Dorance Ensberg assumed the presidency of the Sioux Valley Hospital staff on May 1st.

The community of Pollock honored pioneer doctor **L. C. Shockey, M.D.** at an open house on the occasion of his 89th birthday. Dr. Shockey is retired and resides in Mobridge.

* * *

Dr. Andrew Hesz located at Hill City since 1952 has joined the staff of the Veteran's Administration at Hot Springs.

* * *

Dr. Robert S. Jones, Topeka, has been named psychiatrist — director of the West River Mental Health Center effective July 1st.

* * *

Dr. Charles J. Bobeck, formerly in New York has associated himself with **Dr. F. R. Williams,** Rapid City.

HEART FUND MAKES GRANTS

The American Heart Association recently announced its program of research fellowships and grants for 1961-62. Postdoctoral research fellowships are open to individuals with one year or less of postdoctoral research training and experience. Stripends range from $4,000 to $4,500 plus dependency allowances. Contact should be made through the local heart association.

Advanced research fellowships and established investigatorships are awarded by American Heart Association. Application forms are available from the Assistant Medical Director for Research, American Heart Association, 44 East 23rd St., N. Y. 10, N. Y.



Special scholarship awards of $1,600 were given to 18 University of South Dakota medical students at the annual medical school banquet sponsored by the Student American Medical Association.

Dr. William E. Donahoe, Sioux Falls physician was presented a Distinguished Service award in the form of a plaque by the Medical School. Dr. Donahoe, a 1912 graduate of the University of Illinois has been professor of pediatrics at the school since 1942 and will be designated of the school year.

Dr. Donahoe has always taken an active part in State Medical Association and State Public Welfare. He has served as Chairman of the Council of the State Association and for three successive years was president of his District Society. He received the Cosmopolitan-Civic award for "Charity and Children" and also an award from the State Medical Association for distinguished medical service.

This plaque is duplicated with one having his photograph and will be hung in the halls of the Medical School. He was certified by the American Board of Pediatrics since 1937, and completed post-graduate training in pediatrics at the University of Iowa. Following his graduation from the University of Illinois, Dr. Donahoe interned at Minneapolis General hospital.

Some 250 persons attended the banquet in Julian dining hall on the University campus. Dr. R. A. Buchanan of Huron, president of the South Dakota Medical Association was one of the speakers. A dance in the Student Union building followed the banquet.

Largest of the scholarship awards were half-tuition scholarships of $175 each made available by Dr. Thomas Y. Nakao of Los Angeles, Cal., and given to medical students Alan Brevik, Watertown and Paul Rud, Sioux Falls.

Two $100 scholarships, one each for a freshman and sophomore medical student, provided by the South Dakota Medical Association were given to Stuart Leafstedt, Alcester and Allen Delzell, Vermillion. $100 scholarships for a freshman and sophomore student, given by the Yankton Clinic, were presented to Marilyn Hunter, Sturgis and Duane Freier, Delmont.

Donald Sebesta, Larchwood, Ia., received a $100 scholarship contributed by members of the medical faculty. The Donahoe Clinic of Sioux Falls gave a $100 scholarship to Roger Bush of Rapid City.

Other $100 awards included the South Dakota chapter of the American Academy of General Practice scholarship in memory of the late Dr. J. A. Kittelson of Sioux Falls, given to Robert Splettstoesser of Waconia, Minn. Kreiser, Inc. of Sioux Falls also contributed a $100 scholarship which was given to Dean Clarke of Sioux Falls.

A memorial scholarship of an estimated $35 in memory of the late Fred Kreiser of Sioux Falls was awarded to Morgan Lloyd, Vermillion. The Christian Peter Lommen scholarship, estimated at $75 was given to Jerry Dodson, Tucson, Ariz.

Douglas Pay of Sioux Falls received a handsome, engraved wrist watch, for high scholarship attainment, given by Hoffman-LaRoche Co. of Nutley, N. J., pharmaceutical chemists.

PHYSIOLOGICAL PRINCIPLES IN THE EARLY MANAGEMENT OF CHEST INJURIES—

(Continued from Page 299)

along the bronchovascular roots of the lung to the mediastinum and up into the base of the neck and thence over the chest wall and up over the face and scalp. Unless the air within the mediastinum tends to compress the large veins such as superior vena cava, this condition is usually not serious and requires only control of the etiological factor. This condition is usually quite recognizable since palpation demonstrates a crackling sensation due to the presence of air beneath the skin.

(2) **Traumatic asphyxia.** This clinical picture is caused by sudden compression of the thorax with the resultant forcing of venous blood back into the capillaries of the upper extremities, head and neck. This produces a bluish purple discoloration of the involved areas. Although the appearance suggests an alarming condition, actually little or no alteration of cardiopulmonary function occurs. Proper management includes rest and the treatment of associated lesions.

(3) **Blast injury of the lung.** Such lung damage usually results from sudden severe compression of the chest by rapid elevation of atmospheric pressure about an individual in a confined area such as a tunnel or in a narrow street between tall buildings. Cough with mild hemoptyses and symptoms and findings of mild shock and cerebral concussion are commonly present. Recovery usually occurs following a regime of rest, oxygen therapy an dadequate sedation. Death, however, has occurred, possibly from coronary air embolism due to air being forced into the coronary vessels.

(4) **Closed pneumothorax.** When this condition is due to a penetrating or crushing wound of the chest, no symptoms may occur unless the trauma has been of such a severe degree as to produce collapse of the major portion of an entire lung. On physical examination the diagnosis is obvious, and reexpansion of the lung may be accomplished by aspiration of the air. If the lesion reoccurs due to the presence of a bronchial fistula, continuous suction through an intercostal catheter usually produces permanent reexpansion of the lung.

Thus, we see that injuries of the chest may vary greatly in type and risk to the patient. The importance of early first aid measures in severe trauma of the chest cannot be overemphasized and as indicated by the statistics relating to World War I and World War II, many lives may be saved when early management is instituted.





Pictured above seated, are Drs. Henri P. Volin, Lennox, and L. J. Pankow, Sioux Falls recipients of a 50-year pin and the 1960 Distinguished Service Award, respectively. Standing behind their fathers are Dr. V. V. Volin, Sioux Falls, and Mrs. L. M. King, Jr., Sioux Falls who made the award presentations at the annual banquet in Aberden on May 16th. Dr. Volin was awarded the 50-year pin upon completion of that many years of practice, 46 of them in the present location. Dr. Pankow was awarded the Distinguished Service Award for his part in originating many of the present programs of the State Medical Association. Dr. Pankow's response to the award is recorded below.

"THANK YOU"

Now that the emotional strain of a part of the State Banquet is over, perhaps I can express what I feel better than I could on the night of May 16th.

First let me tell you that the Award came as a complete surprise to me, and even when my Daughter was called to speak, I thought she was there on some Auxilliary business. Needless to say, I was tremenduously touched and pleased, and I repeat my statement that I consider it the greatest Honor I have ever received.

I insist, however, that any accomplishments and improvements that have accrued during the thirty-eight years of my activity in the South Dakota State Medical Association were not made by me, but by the specific assistance of a loyal group that worked with me, and by the support of proposals by the membership of the State Medical Profession. I no more deserve credit than does a farmer for plowing a straight furrow. Without a TEAM furnishing the power no furrow would be made at all. If I had a part in guiding and occassionally starting the point for "GOOD" for our Professional Life, it has been the team-work of the Officers and Members that has made the furrow. I do believe that together we have

made the practice of Medicine in South Dakota a better thing, as I gradually approach leaving it, than it was when I started out.

And so let me say again that I thank you from the bottom of my heart for this Honor you have given me, and I thank the Members of the State Medical Association for their support of any of my ideas and activities and have brought them to fruition, and so made me even a candidate for this Award.

Most humbly yours,
L. J. Pankow

ANNUAL MEETING HIGHLIGHTS

79th Annual meeting in Aberdeen drew smallest number of members since World War II. Those present saw good exhibit, heard good program, enjoyed fine entertainment.

* * *

Dr. G. J. Bloemendaal, Ipswich, won protable stero set door prize given on last afternoon.

* * *

Things you remember after the program has been printed: the South Dakota Division of the American Cancer Society provided sponsorship for one of the speakers. Society also had an exhibit in the Civic Arena.

Known as calling your shots, association guaranteed 175 for buffet dinners at Stag party, served 176. Guaranteed 200 for the banquet, fed that number.

Banquet goers enjoyed **Dr. L. J. Pankow's** obvious surprise at being selected to receive the Distinguished Service Award. Selection was kept a secret up to presentation time. His daughter Shirley had job of persuading him to go to the banquet, also made the presentation.

* * *

Dr. Henri Volin was presented 50-year pin by his son **Dr. V. V. Volin.**

* * *

Everyone at the banquet enjoyed the Hut Four Quartette — a real smooth group doing about 35 minutes of lively songs.

LEGAL CONFERENCE HELD IN CHICAGO

A two day legal conference for medical society representation was held in Chicago May 20 and 21. Discussions included medical quackery, state legislation, medical disciplinary problems, anti-trust litigation, tax problems and medical professional liability.

NEWS NOTES

A second meeting of a group concerned with problems of the aging was held in Huron on May 24th. The medical association was represented by **Dr. R. A. Buchanan, Dr. Warren L. Jones, Dr. Clark Johnson,** and **John C. Foster.**

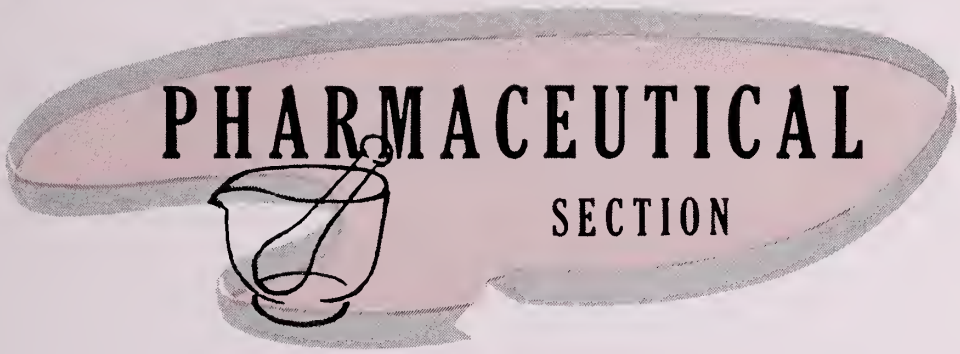
PHYLLIS SUNDSTROM NAMED ASSISTANT EXECUTIVE-SECRETARY



Phyllis Sundstrom has been named to the newly created post of Assistant executive secretary of the South Dakota State Medical Association. The position was authorized by the Council at the annual meeting in May.

Miss Sundstrom graduated from Beresford High School and received two years of business training at South Dakota State College. She accepted a clerical position in the Medical Association office in 1952 and was promoted to office secretary in 1955. She was named office manager in 1957 which job she has held until the latest promotion.

She will assist the executive secretary in all phases of association work.



HAROLD S. BAILEY, PH.D.
EDITOR
Division of Pharmacy
South Dakota State College
Brookings, South Dakota



THE SCIENTIST'S STAKE IN THE KEFAUVER COMMITTEE'S PHARMACEUTICAL HEARINGS*

By
Max Tishler, Ph.D.**
Rahway, New Jersey

Up to a few days ago, it had been my intention to talk to you about "The Chemist in Medicinal Research." I had planned to describe the important role of the chemist in the research team devoted to the search for new methods of controlling disease, and to illustrate his activities by some of the medical accomplishments of the past 25 years. Recent events have compelled me to change my subject.

You are all aware of the preoccupation of the Kefauver Committee in Washington with the pharmaceutical companies, initially to investigate something called administered pricing and subsequently expanded into charges of collusion, price gouging, unfair advertising, and other abuses. This hearing has been given wide-spread press coverage. When this investigation was scheduled, most of the pharmaceutical companies accepted it as responsible citizens. We believed we had an honorable story to tell Congress and the people that our contributions to the health and welfare of our Nation far outnumbered our deficiencies. We were prepared for a fair investigation recognizing that our very rapidly growing industry was reaching maturity and that some of the features characteristic of our adolescence needed to be corrected. We were a proud group, since we believed that through the American free-enterprise system we had helped to build in the United States over a space of 25 years the greatest health team that the world has ever seen. Achievements in medicinal chemistry, brought about largely through industry's research, had given us in the industry an almost religious confidence in our ability to tackle and solve through research some of the most baffling, unsolved diseases which plague mankind. We had the conviction that our pharmaceutical industry with its research and development **know-how** was one of the country's greatest assets, particularly in this period when the international image of our scientific superiority is being seriously questioned.

*Talk given at The Honor Scroll Dinner, New Jersey Chapter, The American Institute of Chemists, Wednesday Evening, April 20, Military Park Hotel, Newark, New Jersey.

**President, Merck Sharp & Dohme Research Laboratories.

The Cost of Research

It is not my purpose to comment on the Kefauver charges of exorbitant prices of drugs to the public. I leave this question to those experts in economics and the business leaders of the industry. However, there is one part in the industry's story to Congress on drug costs which directly concerns Research; namely, the cost of doing research and the quality of industry's research.

Research and development expenditures in the drug industry were reported to be about $190,000,000 during 1959 and are estimated to exceed $200,000,000 during 1960. The cost of doing this research and development must be paid out of income, for industry has no endowment or an endless cornucopia of wealth. This simple fact of economics is not a serious issue of the Kefauver Committee, but during its hearings charges have been made on a number of occasions that research done by our pharmaceutical industry is negligible and tainted. Allegations also have been made by some witnesses that most of the important discoveries in medicinals were made in foreign countries or in non-industrial laboratories and not in the laboratories of the American pharmaceutical companies. Far from leading in drug research, it is alleged that the American pharmaceutical industry has usually followed and often only after a definite lag. The critics go on to claim that much of the laboratory work done by the pharmaceutical companies is centered on exploiting and marketing of foreign discoveries.

These charges have been demoralizing to those of us who have devoted our lives to research in the pharmaceutical industry. Suddenly, our scientific dedication and motives are challenged. We are dismissed in a manner that makes up appear as charlatans; unscientific, and undedicated.

Our Ethics Are Impugned

I am not a person who is easily led to a point of indignation but at this time I am moved to that emotion, and I believe rightfully so. I am indignant because of the unfair criticism of people whom I know to be dedicated, sincere scientists whose motives are actuated by the impelling desire to help mankind. When our ethics, purpose, and accomplishments are impugned, then I, as a man of science, have not only the right but the responsibility to speak out for the facts. This duty transcends all commercial! As a member of the Nation's scientific community and as a spokesman for the scientists in the pharmaceutical industry, I must vigorously protest against the irresponsible and degrading criticisms leveled at us.

In making my protest, I speak from my own experience with scientific people in my own company who are earnestly looking for new and better ways to treat **maladies** and not to create **markets.** Our scientific people recognize that our research is supported from the income we make and yet they have come to our laboratories from the universities with the conviction that our methods of "objective research" provide the best opportunities for the conquest of diseases through drug therapy. Basically, within Merck & Co., Inc. with which I am most familiar, our research programs are selected by our Research people. The manner in which we prosecute our research and the decisions needed in its operations rest essentially within the research organizations. Although our programs of research are approved annually by top management, I can say with complete honesty that never has a research proposal of any magnitude sponsored by our Research organization been significantly altered or refused by management or by marketing considerations. It is the people in Merck's research — the chemist, the biologist, the pharmacologist, and the physician in charge of clinical research — who discover new drugs; who determine through objective experimentation whether a drug is effective and safe; who decide whether a drug is a worthwhile contribution to the armamentarium of the physician; who conclude whether it is redically suitable for marketing; who judge when it is ready for marketing consideration and who dictate what can be said to the practicing physician. These are the responsibilities given to the Research Division by our top management. If a drug does not measure up to the high standards of good medicine, we in Research must take the blame entirely.

Actually during the ten-year period from 1949 to 1959, the Merck Sharp & Dohme Research Laboratories spent $111,000,000 for research. There were years in this period when we did not offer to our marketing organization a single new basic compound for distri-

bution. This was our situation, in spite of the number of promising compounds that were being studied in the clinics after long periods of research in the laboratories. When the clinical data for these promising compounds were examined by our Medical Research people, we concluded that none of these met our standards and concepts of a drug with distinction.

A Review of Accomplishments

Let us now review some of the accomplishments of the past 25 years and remind our critics to count their blessings. First, let me quote from a paper which appeared in the **Journal of the American Medical Association** during 1956, written by Dr. L. H. McDaniel, then Chairman of the Section of General Practice of the American Medical Association. In reviewing his 33 years of medical practice, Dr. McDaniel stated: "I remember the reluctance with which I viewed the approaching winter, for I knew that before spring fifteen patients, including several close friends, would die from pneumonia . . . Then we felt helpless, but today, we can walk into the sickroom with confidence, knowing that often a little ampule or vial the size of one's thumb contains drugs that can conquer diseases formerly thought hopeless."

It was not so long ago that the many infectious diseases in addition to pneumonia struck mortal fear within us. Some of us can remember when tuberculosis meant a lingering doom; when septic peritonitis was common and fatal; when bacterial endocarditis was certain death; and when all forms of bacterial meningitis and septicemias were spoken of with fervent prayers. It wasn't so long ago that our knowledge of nutrition was very meager; when pellagra was not uncommon in our country; when parnicious anemia was a killer; when the terms beri beri, scurvy, and rickets were part of the layman's vocabulary. Today, our medical students learn of most of these deficiency diseases not from the clinics but only from textbooks.

Prior to the early thirties, the American pharmaceutical companies were enlarged apothecary shops which, in contrast to their European counterparts, did little of what we now call research. In fact, most of the important drugs used in America up to 1935 were the result of research in foreign laboratories. Today, the situation is significantly reversed. The productivity of our research laboratories has profoundly affected medicine in every country. In world affairs, the American pharmaceutical industry has become one of our greatest resources of good will.

Modern research in the American pharmaceutical industry really began in the decade commencing with 1930. During this period Parke-Davis, Merck, Lilly, Abbott, and Squibb established research organizations with new concepts and dimensions. They brought together under a single roof scientists of many disciplines, all needed to carry out programs of research from the conceptual stage through clinical evaluation. Men and women of different training — chemists, pharmacologists, pathologists, and physicians — joined together for the first time in seeking solutions to medical problems. This was a new concept of research in our country, for until then research was reserved for the individual investigator in the university and the institute, often isolated and because of this, frequently ineffective. This was the beginning of interdisciplinary research about which we hear so much today in government-sponsored research programs. It is not uncommon today to find in our research that 50 to 100 technically trained research people have had some part in creating a useful therapeutic agent. No other research organization in the United States devoted to health problems, whether it be the university, the institute or government laboratories, has this capacity. It is through such organization of research that the American pharmaceutical industry has had such a significant effect on the science of therapeutics.

Miracle Drugs and Short Memories

I don't believe that any of the experts would question the superiority of today's therapeutics over those of 1935. Let us remember that the term **miracle drug** was not the invention of the pharmaceutical industry. It was the doctor, the public, and the press who almost simultaneously acclaimed the **miracle drugs** of modern chemotherapy. The trouble is that our memories are short. We have forgotten what it was like before the advent of the drugs we now have. Who would want to turn his back on our present armamentarium and rely solely on the therapeutics of 25 years ago?

Let us look at the record of the American pharmaceutical industry during this short space of 25 years. What are some of the achievements which have originated largely in its own laboratories? No one can deny the contributions of the industry in the field of the vitamins. It was largely through its research and development that a number of the vitamins were isolated and characterized and that economical production of most of the important ones originated in this country. From these same laboratories came also such important therapeutic agents as benadryl, the first antihistaminic available to the general practitioner; the first uricosuric agent, benemid, for the treatment of gout; cortisone and its analogues, for the treatment of rheumatoid arthritis, and a host of other diseases; diamox, the first carbonic anhydrase inhibitor of medical importance; diuril and its analogues for the control of edemas, heart failure, and hypertension; the broad spectum antibiotics, chloromycetin and the family of tetracyclines; the antibiotics erythromycin and novobiocin; pyrazinamide and isonicotinyl hydrazide for the treatment of tuberculosis; the less toxic and more versatile sulfa drugs; nilevar, the first oral anabolic agent; meprobamate and librium for mental health; the drugs such as cogentin for the control of Parkinsonian syndrome. This is only a partial list and is only one part of the record for the past 25 years.

Distinguished Collaboration

The second part of the industry's record is derived from the collaboration between the scientists of our laboratories and those of the universities, institutes and hospitals. We at Merck are proud of our collaborations with outside investigators, since six of them had later become Nobel Laureates. Now what has this collaboration between the academic and industrial scientists meant? Streptomycin might have remained a laboratory curiosity or its availability as a drug may have been delayed a number of years had not Dr. Waksman sought the collaboration of research and development in the pharmaceutical industry. Insulin in a form suitable for the treatment of diabetics resulted from a collaboration between the Lilly research staff and the discoverers of insulin, Banting, McLeod, Best and Collip. From such collaborations have also come the female sex hormone, estrone; such vitamins as B_1 and pantothenic acid; dilantin for epilepsy, nystatin for fungal infections; the thiouracils for hyperthyroidism and nalline for the diagnosis of morphine addiction and morphine poisoning.

It is in this area — the collaboration area — that our critics often forget industry's paramount contribution. In some of these collaborations, our contributions are clearly research in nature; in others developmental and still others a combination of both. Unless an organization pursuses the development of a new therapeutic agent, the agent is worthless. Unless the physician has the agent available to him in effective dosage forms and useful formulations, his patients must do without it. Until the industry learned how to make an injectible form of vitamin K_1, dicumarol therapy, a lifesaving method in many instances of coronary thrombosis, was too hazardous for widespread use.

The ability to collaborate and move quickly in research and in development is a priceless attribute of the industry, for one can't put a price on the urgency of saving lives or combating illness and relieving pain. Penicillin, discovered by the British, undoubtedly, would have been delayed for the whole of World War II, had not the American pharmaceutical industry applied its research and development resources when it did. The great rapidity with which Salk's polio vaccine and the Asiatic flu vaccine were made available to physicians can only be measured in terms of people saved.

Someone Else's Test Tube

It is senseless for anyone to charge that laboratory discoveries alone constitute the reason for the existence of research and to say that scientists who carry a discovery from someone else's test tube to a useful drug have contributed nothing. Is it correct to say that the German physicists who demonstrated nuclear fission in the 30's should receive the credit for atomic energy? Certainly, everyone recognizes the contributions of those who worked on the Manhattan project. As a matter of fact, the names we best remember in connection with the atonic project are Fermi and Oppenheimer and not Meitner, Hahn and Strassman.

The pharmaceutical industry today is characterized by the tremendous influex of

new drugs and by an obsolescence of the older ones. As a matter of fact, we have been criticized for this. Why does this constant change of drugs occur? The answer is the intense activity that exists in the research organizations of the pharmaceutical companies. We think of this as competition but actually the motive is the intense desire to produce a better drug. There is no drug in existence that is completely satisfactory — that cannot be improved upon from the standpoint of affectiveness, reliability or toxicity. Even penicillin, considered at one time, an almost ideal drug has its failings. Some patients cannot tolerate it because of the dangers from anaphylactic shock. Some physicians are expressing alarm at the growing number of fatalities resulting from infections of penicillin-resistant staphylococci. The need for improved antibiotics is obviously imperative. The need for improved drugs in other fields of therapy is just as important. This is why during the past ten years so many newer drugs have appeared in the fields of steroid therapy, hypertension, mental and cardiovascular diseases. You may expect that still more drugs will appear as even better ones are discovered.

A Dedication to Science

At this point you can well understand why I changed the title of my talk and why I am exercised by events in Washington. I am addressing you on this subject as a research chemist and not as an official of a pharmaceutical company. I am talking to you in the name of scores of thousands of research chemists who have made a career in industry. We have made this our career for many reasons beyond the need for a means of livelihood — a dedication to science, a resire to create and, not least of all, a desire to contribute something of importance to our way of life.

I think this is true in every field of chemical research, whether it be research in heavy chemicals, petroleum, steel, coal, food chemistry, or the pharmaceutical industry. The feelings of creating and contributing are important factors in the morale, enthusiasm, and dedication we bring to our every-day performance of our jobs. Factors such as these spell the difference between inspired work and just doing a job.

If, as Mr. Kefauver and a number of the drug experts who spoke critically of our accomplishments would have us believe, the result of the tremendous research and development efforts which have gone into the pharmaceutical field has been to defraud the public, to swell the coffers of the companies, and to exact merciless tribute from the infirm and the aged — it is a sad commentary on the meaning of the thousands of man-years of dedicated effort by thousands of chemists, engineers, biologists and physicians throughout this country.

An Irresponsible Indictment

Irresponsible attacks on motives and ethics of scientists can be irretrievably appalling to their morale. Irresponsible indictment of the best efforts of such an important segment of our scientific and technological manpower can have serious consequences in decreasing the sources of scientific manpower and on the youth of our country who see an expression of their idealism in the accomplishments of chemistry, biology, and medicine during the past 25 years. Toward these dangers, our critics must take a responsible attitude. Those who have gone to such lengths to degrade the medical accomplishments of the American pharmaceutical industry must be made to realize the extent of the damage they cause and be willing to take the responsibility for it.

I can't believe that some of our scientific critics at the Washington hearings really meant what they said. I question whether the views they expressed represent their over-all assessment of research in the drug industry. Could it be that they failed to appreciate the seriousness of giving their views in such a preemptory manner, not reflecting sufficiently on the importance of adequate perspective when expressing their views in the public spotlight?

I had a special reason for bringing this unpleasant issue to you. Having been a member of the American Institute of Chemists for over ten years, I know of its aims and purpose. Each of us has deep convictions about the ethics, motivations and dedication which make up the profession of chemistry. We know that if the scientific integrity of one group of dedicated scientists is attacked with impunity then the dignity of all science will become degraded. If one group of scientists can be tarred and feathered without vigorous protest, then we are all slandered.

(Continued on Page 346)



A AS IN ANESTHETICS*

As the Stone Age surgeons cut into the skull to free the demon, the screams of his still-conscious patient, ringing in the healer's hairy ears, echoed down the length of the forest.

The same screams were heard by the disciples of Hippocrates, and echoed down the corridors of 19th Century hospitals from Moscow to San Francisco.

Many, in all eras, preferred to die; those that were carried to the table struggled furiously, begging the surgeon to stop or else go faster, faster — or they fell into comas that expedited the operation but gave little promise of survival.

William Cheselden, speediest 18th Century surgeon (he could incise a bladder, remove the stone in 54 seconds) would toss, sleepless, the night before a major operation; famed surgeon John Abernethy vomited upon leaving the torture-chamber of the operating theater.

Then, in 1846, a vapor in the operating room at Massachusetts General Hospital divorced pain from surgery. America had given mankind its greatest gift.

Rock 'n roll for relief?

Today, research in anesthesia takes many approaches. Example: in experiments in Massachusetts, patients wear earphones that transmit a combination of recorded music and a roaring mixture of random noise. When things get painful, they merely turn up the volume.

The method not only lessons pain sensations in childbirths, operations and dentistry (they are blocked by nerve impulses created by the flood of sound) but patients under "noise anesthesia" seem to bleed less, too.

As for the creation of more "conventional" anesthetics, fluorine currently fascinates the chemist — and for obvious reasons. From fluorine comes a tremendous range of products — wildly reactive and explosive on the one hand, mild and meek on the other.

One of the surprising things about fluorine is the way its shout can be muted to a whisper by combining it with carbon. This is, actually, the result of fluorine's great activity; so much energy is released when it reacts with carbon that the resulting fluorocarbons are particularly stable.

Typical newcomer to anethesia is a fluorocarbon named Fluothane. First synthesized in 1955, it's not only nonflammable and nonexplosive, but significantly cuts the post-surgery sickness associated with ether, acts

* Reprinted from "The Laboratory," Volume 28, No. 2, P. 34-39, through the courtesy of Fisher Scientific Company, Publisher.

fast, has low toxicity — and the patient recovers consciousness almost immediately.

Helen's tears, U.S.P.

From Fluothane, a long line of experiments in medicinal chemistry leads back to the misty myths of antiquity, when man sought his pain-relievers from the herbs that grew out of the earth.

Typical items: the joy-bringing, sorrow-easing "nepenthes" (from the Greek **ne,** negations, and **penthos,** pain) and "helenium," reputedly the tears of voluptuous Helen of Troy.

But it seems to have been the Greek poets who specified pain-relieving and sleep-producing drugs: physicians did not. Though the sensibilities of patients were somewhat blunted by wine, hemp or poppy, the administration of pain-controlling drugs was much too uncertain, the Greek writings contain no record of a single operation under anesthesia.

Equally painful were the 1000 years of the Middle Ages, during which the active principles of drugs (alkaloids) were unknown and it was necessary to use the crude drugs themselves. There was no way of standardizing the dosage, and apparently identical samples of opium, mandrake or hemlock might differ tragically in narcotic power. Plant juices did not lend themselves to inhalation, were effective only if taken internally — a procedure too dangerous to be popular. (It's not surprising to find a recent medicinal chemist observing that the medieval narcotics were probably unable to "make even a guinea pig nod.")

Ether, first modern anesthetic, was discovered in the 16th Century by Valerius Cordus (who in a brief life of 29 years gave Europe its first pharmacopeia, inaugurated the systematic study of botany, helped pioneer the transition from alchemy to chemistry).

Cordus synthesized ether from sulfuric acid and alcohol, found it highly volatile, wrote that it "may be used in pleurisy, peripneumonia and hacking cough to draw from the lungs pus and mucus." Note his observations; it seems probable that it was the use of ether for these conditions that led to the discovery of its anesthetic powers 300 years later.

The Age of inhalation

Modern inhalation anesthesia was really ushered in by the boom in chemical investigations in the 1700's.

In 1771, tireless Joseph Priestley in England, Carl Wilhelm Scheele in Sweden, independently discovered oxygen; next year, Priestley discovered nitrous oxide. Antoine Lavoisier and his pretty wife applied quantitative methods to chemistry for the first time and determined the true significance of oxygen. The phenomenon of oxidation is, of course, of the greatest importance to anesthesia.

The way was now prepared for the determination of the anesthetic properties of nitrous oxide by Humphry Davy. Had 21-year-old Davy written nothing else, his fame would be secure for this passage in his first book, "Researchers on Nitrous Oxide" (1780):

> As nitrous oxide in its extensive operation appears capable of destroying physical pain, it may probably be used with advantage during surgical operations in which no great effusion of blood takes place.

But no surgeon of the age picked up the paragraph in which chemist Davy gave the secret of anesthsia to mankind.

News from America

At the beginning of January 1847, there appeared in a German paper a sensational dispatch that would soon hit Europe with the impact of the first news of the atom bomb:

> In a lecture by Dr. Bigelow, surgeon of the Massachusetts General Hospital in Boston, there was announced a new method of rendering patients insensitive to the pain of surgical operations. The method, originated by Dr. William T. C. Morton, Boston dentist, consists of the inhalation of a prepared vapor. Such inhalation requires only a few minutes, whereupon unconsciousness ensues, commonly persisting two or three minutes. During this time a total insensibility obtains. No harmful results are produced . . . . .

Soon after the introduction of anesthesia in the British Isles, one James Young Simpson had an inspiration: he would banish pain from from the maternity wards of Edinburgh (the city that once saw Lady Eufame Macalyene burned at the stake for attempting to ease the pangs of labor by artificial means).

The first chemical that Simpson employed was, of course, ether. Not quite satisfied, he

searched for a more energetic compound, heard from a Liverpool chemist of a heavy colorless liquid — chloroform — discovered independently in Germany, America and France by Liebig, Guthrie and Soubeiran.

On November 4, 1847, Simpson poured the contents of a reagent bottle into a tumbler, shoved his nose to the brim, laughed heartily, waltzed around the room, then fell to the floor.

Soon, he was using chloroform in his obstetrical practice; since the first child vaccinated in Russia was named Vaccinoff, it was only fitting that the first child he delivered via chloroform should be named Anesthesia.

When bitter critics quoted "in sorrow thou shalt bring forth children," Simpson answered from the same Book: "the Lord God caused a deep sleep to fall upon Adam and he took one of his ribs and closed up the flesh." Simpson's argument seemed unanswerable: the first anesthetist was God.

Another tack against pain

The extraordinary method of introducing an anesthetic directly into a vein — intravenous anesthesia — had its origin in that golden age of experimental science — the 17th Century.

At Oxford, Christopher Wren, interested in therapy, experimented with the idea of inserting a pipe into the blood vessel of animals, injecting drugs directly into the blood stream. In 1656, Wren and chemist Robert Boyle, a good friend, actually attached a quill to a syringe, inserted it into a superficial vein of a dog, injected opium solution. The dog was stunned — but lived.

By 1872, researchers were trying chloral hydrate, but its effects were too slow in disappearing, the required dosage too dangerous. Then, in 1902, Nobel Prize winner Emil Fischer successfully synthesized barbital, first of the family of barbiturates that revolutionized intravenous anesthesia.

An exotic phenomenon entered the picture in 1942 when Canadian scientists Griffith and Johnson introduced curare to anesthesia. Instead of requiring deep anesthesia to relax muscles in the operative area, they got the same effect by inducing light anesthesia, then injecting curare.

Curare, horror drug of the jungle, had been tamed by science.

Engineering, too, contributes to developments in anesthetics. Example: until recently, nitrous had to be produced by the decomposition of amonium nitrate in a "batch" process; and solid salt, melted and fed into reactors, decomposed under controlled heat into nitrous oxide, water and traces of other by-products. Chief difficulty: controlling the addition of heat (which in turn affected the rate of decomposition). Another difficulty: as a dry salt, amonium nitrate requires careful handling.

So, chemical engineers developed a continuous process in which a concentrated water solution of amonium nitrate is fed into the reactor at a rate exactly equal to its rate of decomposition.

Since the reactor is run at a constant level, super-heating does not occur, unwanted by-products are kept to a much lower level. And the amonium nitrate solution can be transported in tank cars, then pumped into the reactor — no hands.

Where, how, why

Today, at the other end of the scale from the reactors where raw materials are transformed into commercial anesthetics, researchers study the ultimate action of anesthetics in the human body.

If the problem of how the living cell can become the site of consciousness is the most baffling one in biology, a close second in complexity was the problem of how a chemical not metabolized by brain cells produced unconsciousness.

But biochemists, physiologists, pharmacologists and medicinal chemists have come a long way in this field, now know that chemicals soluble in fats and fat-like bodies exert a narcotic action on living protoplasm to the extent that they can be distributed in it. The effect manifests itself most in cells in which fatty substances predominate (that is, nerve cells).

Second, researchers have traced how the presence of anesthetic agents in the central nervous system attacks the "main line" oxidation of the cells in the system.

And finally, they are penetrating the enzyme level — that fantastically intricate world of activity responsible for consciousness. Here scientists are learning how anes-

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PRESIDENT'S PAGE



Fellow Pharmacists:

A year ago, I wrote that organization does not offer a panacea, nor does is possess a magic wand. Actually during the past year, our problems have intensified and we must strengthen our efforts to overcome them.

Many of us now or may soon be facing operational problems never before faced in the past generation. Interpretation of present laws have released many drug items to other outlets. The continual loss of fair trade presents pricing problems, which along with rising costs, may make it necessary for many stores to completely revise their operational policies in order to profitably stay in business.

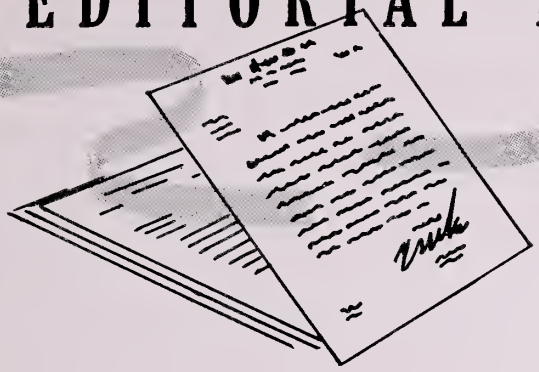
Costs must be carefully analyzed, modern merchandising methods should be instituted, and new lines of merchandise may be needed to replace volume lost to other outlets. Many of these problems are individual and cannot be solved by group action, but that does not mean that organizational effort has no value. Any organization with an interest in Pharmacy and a sound program must be supported by all of us. Only this way can our voice be intensified enough to be heard.

I was somewhat disappointed in attendance at the Pharmaceutical Institute recently held in Brookings. While registration was about normal, it seems we should have more than one person from each TEN stores in the state, especially when State College is within 3 hours drive of the majority of the population. We are proud of our Division of Pharmacy and would not be without it, yet when they plan a program for us, we do not attend. Let's do a better job next time.

It has been a pleasant and rewarding experience to have served as your president the past Year. Thank you.

Willis Hodson
President

EDITORIAL PAGE



PHARMACY'S PARTNER

A recent public relations bulletin from Eli Lilly and Co. used the above as its heading. The article stated that, whether we like it or not, government is big business and it is in pharmacy to stay. The main point in the article was that "Most people agree that certain aspects of governmental interest in the profession are desirable. On the other hand, few in pharmacy feel that regulatory controls should be increased to the point where they threaten our free enterprise system."

This seems to your editor to make good sense. We know that certain regulatory controls on drugs and biologicals are necessary to protect the public interests. We also know that contributions made to medical care by the many federal organizations involved in this area have greatly enhanced the improvement of the general health of our people.

Recently there have been statements attributed to some of the members of the Senate sub-committee investigating drug pricing which indicate that out of this investigation may come regulatory controls by the government on the manufacture of drugs. Whether this is a serious statement by those who made it or just more propaganda for an election year cannot be ascertained at this point. However, the mere fact that the statements are made should be of great concern to all members of the profession. These statements appear to this writer to be striking at the very foundation of our democratic free-enterprise system.

We submit that one of the principal reasons that drugs purchased under generic name from some manufacturers are cheaper than for the same item purchased under a trade name is the lack of research overhead in those companies which sell these drugs at a lower cost. We also submit that another reason for lower cost is a difference in the analytical control processses used. One only has to go to the list of federal prosecutions for mislabeling in order to see that this latter fact holds true.

Competition in the drug industry has never been greater than at the present time. New drugs are replaced sometimes within a few months or weeks by those capable of doing a better therapeutic job with fewer side effects.

Cut-throat competition in generic name drug selling could only lead to the disruption of our tremendous research programs for the production of better drugs. Without this research overhead the question could well be asked, "Who will discover tomorrow's drugs?"

Thomas Kerfoot, president of the Associa-

(Continued on Page 346)



Advances In Drug Research

MAN AND LACTOBACILLUS ACIDOPHILUS

Lactobacillus acidophilus may be man's oldest friend. A close and friendly relationship between them dates almost from birth. By the time an infant is three days old a population of Lactobacillus is already flourishing in his intestine. Billions upon billions. Thereafter, throughout life, if his intestinal tract remains in good health, Lactobacillus acidophilus organisms constitute about fifty per cent of the total microbial population of his intestines. The number of microorganisms in the normal, healthy gut are scarcely imaginable. They make up approximately two-thirds of the total mass, other than water, of its contents. That is, their bulk exceeds that of food and food wastes by a ratio of two to one. Broken down into major components, the contents of the normal human intestine average, roughly, one part food and food breakdown products; one part Lactobacillus acidophilus organisms alive and dead; one part all other microorganisms that normally inhabit the gut, plus invaders, alive and dead.

The words "alive and dead" are of particular significance in any discussion of microbial populations. The average life span of Lactobacillus acidophilus is less than thirty minutes; for other species in its bailiwick, life expectancy is reduced by the lactic acid which the dominant bacilli produce in nearly lethal quantity. Among the subordinate microorganisms in the normal, healthy intestine are Escherichia coli, Clostridium welchii, Streptococcus faecalis, saccharomycetes, and others which, while harmless enough as minorities in their proper place, can cause disease, distress, and embarrassment if the natural dominance of the beneficent Lactobacillus acidophilus is upset. The diseases are such as diarrhea, functional constipation, colitis, pruritus — any of which may be serious or merely distressing. Embarrassment arises from the itching of pruritus, the "growly gut" and other less socially acceptable consequences of flatulence.

It can be taken for granted that neither diarrhea nor constipation, whether mild or serious, occurs except when the balance of microorganisms in the intestines has been disturbed. Pruritus is commonly, perhaps most often, the result of overgrowth of a fungus, Candida albicans, which produces a dermatitis, often intensely itchy. Flatulence, also, is caused by one of more of the saccharomycetes (which are yeasts) that cause fermentation with resultant gas in the intestine.

These simple, basic facts of the ecology of the human intestine make clearly understandable the importance of a method of therapy which — merely by restoring the normal balance between various species of symbiotic or parasitic microorganisms — successfully treats acute dysfunction or prevents the development of a chronic, undesirable condition.

Medicine has long recognized, intuitively or otherwise, the importance of maintaining the beneficent dominance of Lactobacillus acidophilus. An early remedy of the peoples about the Black Sea and the Bosporus was the cultured-milk health food known as yoghurt. The critical microorganisms in yoghurt is Lactobacillus bulgaricus which does, indeed, produce lactic acid in the intestine but — since it is not a normal inhabitant — cannot survive in the human, and its medicinal value lies only in its short-term effect of producing an environment in which the natural acidophilus can survive and propagate. Acidophilus milk, artificially impregnated with the bacillus, also has been used, but — like yoghurt — it has the shortcoming that relatively large quantities are required to provide a relatively small increment in the acidophilus population of the person being treated. Since 1917, when the Arlington Chemical Company, now a division of U. S. Vitamin & Pharmaceutical Corporation, first marketed the liquid Bacid Culture, American medicine has had available a therapeutic substance sufficiently concentrated to effect pharmacological results.

Persistent research and technological improvement of methods of culturing and preserving the organisms, meanwhile, has led scientists to the point where they have been able to produce the microorganisms in a dry state, to concentrate billions in capsules and to keep them active when refrigerated for two years.

This new, dry form of Lactobacillus acidophilus is that which is now being made available to the medical profession as Bacid capsules primarily for the treatment and prevention of dirrheas caused by oral antibiotics which do, by seriously reducing the Lactobacillus acidophilus population, permit the overgrowth of fungi or antibiotic resistant organisms which cause the diarrhea. Tasteless and odorless, Bacid capsules are pharmaceutically more "elegant" than the older forms.

They can be carried and taken at mealtime intervals much more satisfactorily than the older, bulkier dosages for the reimplantation of Lactobacillus acidophilus in man, who — because it is perhaps his oldest microbial friend — cannot live in health without it.

COLLEGE OF NUTRITION IS FORMED BY MD'S TO PROMOTE METABOLIC RESEARCH AND THERAPY

Formation of the American College of Nutrition was announced recently by a group of New York and New Jersey specialists in nutrition, metabolic diseases and gastroenterology. The college will not be limited to physicians in these fields but will also include gerontologists, endocrinologists, surgeons and others. Its purpose is to promote postgradute research and education in therapeutic nutrition — the supply, transport, and utilization of materials for the building, maintenance and reproduction of cells, structures, and systems of the human body.

"Nutrition used to be the specialty of the homemaker, but now, with the development of biochemistry and microbiology through which medicine is learning how to manipulate materials at the cell level, it has become a medical specialty," said Dr. Robert Adams Peterman, secretary-treasurer of the new college.

The college is incorporated as a non-profit organization subject to American Medical Association regulations. Its annual meeting will precede the AMA convention in the same city each year, with the first meeting scheduled for Miami, Fla., next June. Fellows of the new college will be entitled to use the initials "F.A.C.N." as part of their signature.

Dr. S. William Kalb of Newark, N. J., has been elected president of the new college. Dr. Kalb is chief of nutrition services, Clara Maas Memorial Hospital, Belleville, N. J., and Beth Israel Hospital, Newark, and chairman of the nutrition committee of the Essex County Medical Society. He was formerly lecturer and clinician, New York Post Graduate Medical School and Hospital. He is the author of numerous scientific papers and reports and is frequently called on as a consultant to the Federal Trade Commission and congressional committees. He has specialized in metabolism and nutrition since 1925.

Dr. Peterman, whose home is Livingston, N. J., is physician-in-charge, Obesity Clinic, Kips Bay Health Center, New York City, and consultant in nutritional disorders and nutritional and metabolic research to pharmaceutical and other research organizations. A former member of the board of governors of the National Vitamin Research Foundation, he has specialized in nutritional, metabolic, and related disorders for 13 years, and is the author of clinical reports in his specialty.

Physicians eligible for fellowship are those whose professional activity is chiefly concerned with metabolism and nutrition — as in the treatment of such diseases as sprue, diabetes, gastrointestinal disorders, conditions in which electrolyte balance and metabolic supply to the tissues are involved, and others in which nutritional or metabolic factors are important, including postoperative convalescence. Both fellowships and associate fellowships will be granted by the college.

Some of the specific objectives of the college, Drs. Kalb and Peterman pointed out, are:

- To stimulate and encourage postgraduate research in nutrition and metabolism.
- To assure publication of the reports of such research in a professional journal edited by and for the college.
- To inspire medical colleges and other teaching institutions to establish postgraduate symposia, conferences, and seminars which will promote the qualifications of physicians for admission into the college.
- To coordinate clinical and experimental work in the field of nutrition and metabolism.
- To formulate a code of ethics, practices, and principles relating to the specialty of clinical and therapeutic nutrition.

The administrative office of the organization is at 19 Oak Street, Livingston, N. J.

CANCER METABOLISM STUDIED

A new approach to the search for anti-cancer drugs has emerged from fundamental research on differences between cancer and normal cells at the Merck Sharp & Dohme Research Laboratories.

Merck scientists recently told the American Association for Cancer Research that a major defect in cancer metabolism was reversed in test tube expirments by replacing a missing enzyme.

The enzyme is 'glycerophosphate dehydrogenase.' It commands 'glycerophosphate,' an important intermediate in the metabolism of carbohydrate. Glycerophosphate as well as the enzyme were found missing in cancer cells.

In the Merck experiments glycerophosphate dehydrogenase demonstrated other important effects in cancer metabolism. When the enzyme was added to extracts of cancer cells not only did glycerophosphate increase but lactic acid decreased as well.

Excess lactic acid, resulting in loss of energy normally furnished by carbohydrate, is a principal metabolic feature of cancer. The reason for this excess has long been sought as the key to the characteristic defects of carbohydrate metabolism in cancer.

Further research is underway in the hope that this fundamental discovery might be applied to the treatment of cancer through the design of drugs acting on these vital mechanisms.

STREPTOKINASE AND HEART DISEASE

A woman who died of pneumonia in 1933 may prove an important link in the future control of heart disease. This strange turnabout is the result of scientists discovering that the destructive power of the streptococcus organism could be harnessed and used to save lives instead of taking them.

Twenty-seven years ago physicians at New York's Bellevue Hospital found that for some unexplainable reason a woman patient's blood would not clot. Since she later succumbed to a massive streptococcal infection, the researchers began working with the streptococcus organism to see what role it might have played in causing the blood condition.

After six years of work they isolated an enzyme, called streptokinase (SK), from the organism which had the ability to start a complex chemical reaction, eventually resulting in the dissolution of blood clots in test tubes and in experimetal animals.

In 1958 medical researchers, headed by Dr. Sol Sherry from St. Louis' Washington University, reported successfully treating 20 to 24 heart attack victims with a highly purified experimental form of the drug. Although

they felt that SK has helped save the lives of the 20 patients, they could not categorically say that it had actually helped dissolve any blood clots. These researchers reported in 1959 that among 50 patients treated for various conditions with SK, the enzyme had not had any harmful effect on body tissue.

Proof of clot dissolution also came during 1959 when investigators at New York University indicated that they were able to dissolve a clot in a blood vessel using purified SK. This was a medical first. Drs. Alan Johnson and Ross McCarthy reported in the September Journal of Clinical Investigation, "that consistent and reproducible intravascular clot lysis can be produced in man," using SK to trigger man's built-in anti-clot mechanism.

They based their conclusion on work conducted with 26 human volunteers in whom blood clots had been artificially induced. Thirteen persons constituted a control group which was not given any medication. The rest were divided into several groups and given intravenous doses of SK in varying amounts and using different infusion techniques for prolonged periods.

In no case did a clot dissolve among the control group. Among one group of SK-treated subjects, 100% clot dissolution was achieved, and in no case did the clot return. However, somewhat less successful results were obtained when SK was administered under other infusion conditions, the investigators said.

An extremely complicating factor in carrying on this research to date has been the difficulty of purifying the enzyme. The strep organism produces in the neighborhood of 100 different substances along with the SK and some of these can cause reactions in man. Until now it had been an almost impossible task to separate them.

The purification of SK was accomplished by Lederle Laboratories Division, American Cyanamid Company which estimates that the half ounce of SK it has isolated for research at Washington and New York Universities has cost about $250,000. Intense research is now underway to try to refine the production process so that larger and more economical yields of the drug can be obtained.

Lederle has invested more than a million dollars on enzyme research over the past 12 years. Since 1951 a product (Varidase) has been on the market containing a partially purified form of SK. Varidase has been used by physicians to help control inflammation and swelling.

Although the research with purified SK is still extremely experimental, it may pave the way for better methods of dealing with atherosclerosis and thromboembolism, thanks to a case of pneumonia almost 30 years ago.

PARKE-DAVIS DEDICATES RESEARCH LABORATORIES

The world's most modern research laboratories were formally opened April 19 by Parke, Davis & Company.

An estimated 1,000 joined with national, state and city officials in observing the brief noon-time ceremony which marked the opening of the new $13,500,000 laboratories.

The new buildings, of contemporary design, contain 250,800 square feet of floor space and required five years to complete from the date planning began.

Now in full operation, the laboratories provide the company with research facilities at Ann Arbor and Detroit, Mich., and Hounslow, England, and represent a 115 percent increase in area devoted exclusively to research and product development.

"This total will be further increased by at least another five percent before the end of the year when research facilities now under construction near Sydney, Australia, are completed," Parke-Davis President Harry J. Loynd said.

He reported the company's 1960 research budget of $12,000,000 — which does not include capital expansion — will be increased for 1961 "to support our expanded research operations."

Loynd said the new Arbor laboratories will enable his firm "to make greater progress faster" in the search for answers to major diseases and health problems.

With its three existing research facilities combined, Parke-Davis has 715 people and 468,000 feet of floor area devoted exclusively to research and the development of new and improved medicinal products: Ann Arbor — 315 employes, 250,800 square feet of space; Detroit — 310 employes, 200,000 square feet of space; and Hounslow, England — 90 employes, 18,000 square feet of floor space.

The Australian laboratories will contain

24,350 square feet of floor area.

Three of Parke-Davis' five major research departments occupy the new facilities . . . chemistry, pharmacology, and clinical investigation. The vacated space at the Detroit laboratories, which includes the first building constructed by industry anywhere in America for scientific research, will be occupied by the microbiology and product development departments.

At Ann Arbor, the five buildings in the complex—three of them connected by underground tunnels — include: a laboratory building for the chemistry and pharmacology departments; an administration building which contains a 192-seat auditorium, a 170-seat cafeteria, a library with 28,000 bound volumes, journals and other publications, and space for the clinical investigation department and administrative personnel; a high pressure laboratory; a solvent storage building; and a power house.

The laboratory and administration buildings are completely airconditioned. They are faced with aluminum and glass curtain walls containing heat absorbing gray glass. Precast concrete panels which have facings of marble chips are a portion of the wall material for the administration building, high pressure laboratory and the solvent storage building. The power house is entirely faced with gray glass which limits light transmission to approximately 25 per cent.

The laboratory building is the largest of the five. Each floor of the three-story rectangular structure, which also has a basement, is about the size of a football field (330 ft. by 127 ft. for the building vs. 330 ft. by 160 ft. for a football field). It is designed with a continuous corridor along the exterior wall to serve as buffer in control of extreme humidity and temperature conditions. The building contains 93 laboratory rooms, 54 animal and utility rooms, in addition to offices, shops, and dish and cage washing rooms.

The power house supplies the entire complex with heat, refrigeration and electricity. Equipped with three gas fired steam boilers, turbine generator and three absorption units for refrigeration, the plant is capable of supplying the equivalent of electricity to approximately 200 homes and air-conditioning for approximately 700 homes.

PHARMACY PAPER—

(Continued from Page 336)

I hope that I have conveyed to you an appreciation of the seriousness of our situation and the obligations each of us has to defend the rightful position of the research scientist in the industrial and scientific development of the nation. I also hope that each of you is equally indignant over this challenge to our scientific profession and that each of you will make yourself heard in words and deeds.

PHARMACY PAPER—

(Continued from Page 339)

thetics distort the enzymatic activity of the brain, is (lucky for us) reversible processes, bringing about that blessed pause in consciousness.

These laboratory studies on the cellular level, backed by the stream of new synthetic anesthetics coming off the assembly line of the organic chemist, are hastening the day foreseen by the Good Book when "neither shall there be anymore pain.

EDITORIAL PAGE—

(Continued from Page 341)

tion of British Pharmaceutical Industry said recently, "To depend year after year on the usual political expedience for stopping hostile legislation is shortsightedness. In the long run isn't it better and surer to lay a groundwork with the people back home who have the votes, so that proposals of this character (socialistic) are not popular with them, rather than depend upon stopping such proposals when they get to the legislature or commission?"

This makes sense to us. And we would like to underscore the closing statements of that article which say "All levels should begin now to lay a groundwork with the people back home — to create a favorable climate in which the profession may continue to serve under our free enterprise system. It is everyones responsibility. We should remember, government always moves forward. It rarely goes backward and undoes what has been done."

Rx PHARMACY News

SDSC GRADUATES CLASS OF FORTY-TWO

Forty-two pharmacy seniors received diplomas June 6 at the 74th annual Commencement Exercises of South Dakota State College.

The new pharmacists were granted the Bachelor of Science degree upon completion of the regular curriculum. In addition some of the graduates have completed the required year of pharmacy internship. Those graduating were:

Beverly Smail Allen
Melvin J. Anderson
George F. Appleseth
Charles J. Blink
Vernon T. Brown
Terry F. Casey
Marlyn K. Christensen
Richard H. Daugherty
Marshall Brook Davis
Larry Verdell Detmers
Harvey P. Diede
Dennis A. Dingman
Loren Ardeen Eitreim
Terrie Teuber Gaughran
Clifford A. Hall, Jr.
Roberta M. Herzog
Dennis R. Hoogland
Bruce R. Johnson
David P. Koster
Robert F. Knapp
Donald K. Lord
James T. Lowe
Arlene M. Lyle
Richard D. Manthei
Frederick F. Martin
LaVern R. Mowell
Richard D. Mulder
Rodney C. Nickander
Edward J. Pelant
Owen R. Pool
Neil D. Ramlo
Donald A. Rave
Arden F. Rhode, Jr.
Robert D. Rotschafer
Donivan L. Sander
Edward J. Schlachter
William R. Scranton
Verlyn L. Smith
LeRoy C. Stacey
Eugene F. W. Struck
Ronald F. Vosacek
Jan Clinton Wenger

State Board of Pharmacy examinations for the graduating class, as well as for those of last year who have completed their pharmacy internship, were held June 7, 8 and 9 on the State College campus at Brookings. Those conducting the examinations were State Board members: Harold Mills, Rapid City; Roger Eastman, Platte; A. O. Bittner, Aberdeen; Bliss C. Wilson, Secretary of the Board, Pierre; and Inspector Glen E. Velau, Sioux Falls.

DENTAL-PHARMACY RESEARCH STAFF APPOINTED

Two additions to the research staff of the Department of Pharmaceutical Chemistry, Division of Pharmacy, South Dakota State College, were recently announced by President H. M. Briggs following Board of Regents approval. Those appointed were Stanley M. Shaw and Dennis Hoogland.

Mr. Shaw was appointed a

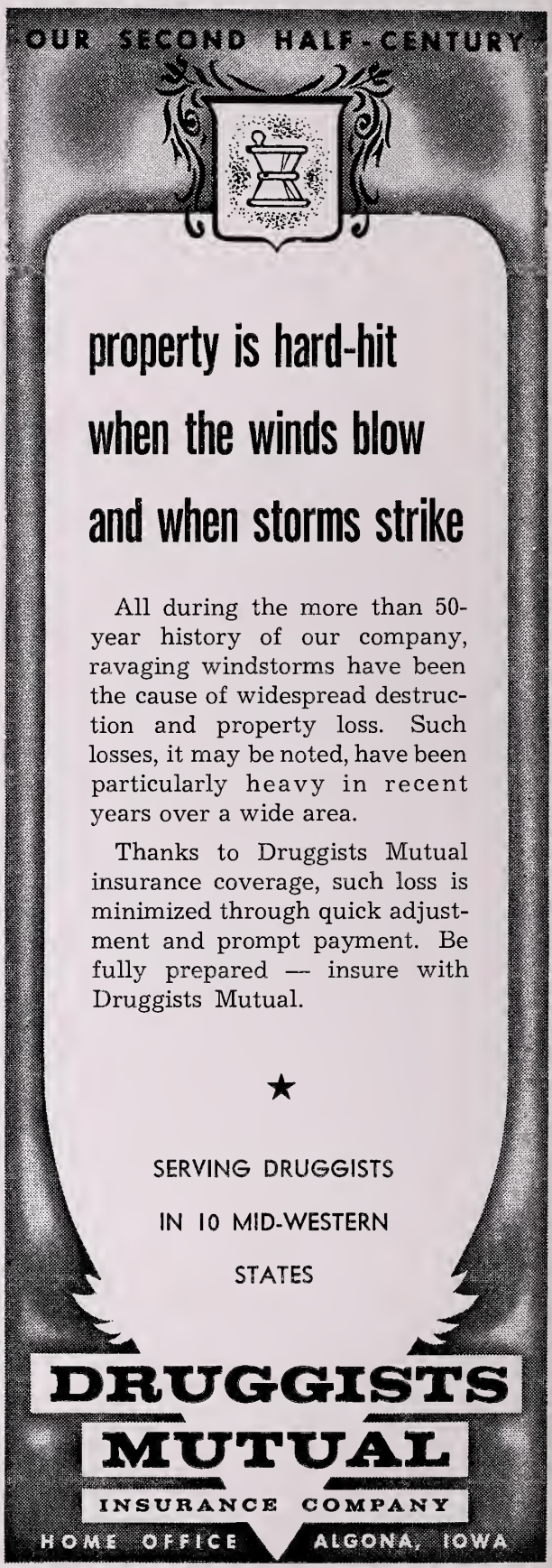
research associate in Dental-Pharmacy. He received his Bachelor and Master of Science degrees from South Dakota State College and is presently completing course requirements for the Doctor of Philosophy degree with a major in Bionucleonics at Purdue University.

Mr. Hoogland was appointed a graduate research assistant in Dental-Pharmacy. He received his bachelor of Science degree in Pharmacy in June and will study toward the Master of Science degree with a major in Pharmaceutical Chemistry.

The Dental-Pharmacy research program was established in the Division of Pharmacy at South Dakota State College in 1957. Under grants from the South Dakota Dental Association, the South Dakota State Pharmaceutical Association, and the United States Public Health Service, the program currently is studying the effect of the protein anabolic agent norethandrolone on extraction wound healing and on the incidence of dental caries.

PHARMACY UNDERGRADUATE WINS RESEARCH AWARD

Rodney Nickander, Madison, Minnesota, a senior student in the Division of Pharmacy won first place in the Biological Science area of the undergraduate research contest at South Dakota State College recently. Mr. Nickander also won a $50 second prize in the over-all judging. Nickander's study was titled "The Pharmacological Evaluation of Four Methenamine Derivatives as Potential Antispasmodics."



Transactions of the South Dakota State Medical Association

Seventy-Nineth Annual Session

May 14, 15, 16, 17, 1960

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First District (Aberdeen)

E. J. Perry, M.D. (1962) ..... Redfield

Second District (Watertown)

J. J. Stransky, M.D. (1962) ..... Watertown

Third District (Brookings-Madison)

M. C. Tank, M.D. (1963) ..... Brookings

Fourth District (Pierre)

L. C. Askwig, M.D (1962) ..... Pierre

Fifth District (Huron)

Paul Hohm, M.D. (1963) ..... Huron

Sixth District (Mitchell)

P. P. Brogdon, M.D. (1963) ..... Mitchell

Seventh District (Sioux Falls)

N. E. Wessman, M.D. (1963) ..... Sioux Falls

Eighth District (Yankton)

T. H. Sattler, M.D. (1962) ..... Yankton

Ninth District (Black Hills)

J. D. Bailey, M.D. (1961) ..... Rapid City

Tenth District (Rosebud)

E. P. Sweet, M.D. (1961) ..... Burke

Eleventh District (Northwest)

H. E. Lowe, M.D. (1961) ..... Mobridge

Twelfth District (Whetstone)

E. A. Johnson, M.D. (1961) ..... Milbank

STANDING COMMITTEES

1960-1961

Scientific Work

T. H. Sattler, M.D., Chr. ..... Yankton
R. H. Quinn, M.D. ..... Sioux Falls
A. P. Reding, M.D. ..... Marion

Legislation

H. Russell Brown, M.D., (1960) ..... Watertown
M. C. Tank, M.D. (1962) ..... Brookings
E. T. Ruud, M.D. (1962) ..... Rapid City
R. F. Hubner, M.D. (1963) ..... Yankton
C. L. Swanson, M.D. (1961) ..... Pierre
H. R. Lewis, M.D. (1961) ..... Mitchell

Publications

R. E. Van Demark, M.D., Chr. (1961) Sioux Falls
G. S. Paulson, M.D. (1962) Rapid City
Robert Rank, M.D. (1963) Aberdeen

Medical Defense

A. P. Reding, M.D., Chr. (1961) Marion
L. J. Pankow, M.D. (1962) Sioux Falls
G. F. Wood, Sr., M.D. (1963) Rapid City
J. W. Donahoe, M.D. (1964) Sioux Falls
C. B. McVay, M.D. (1965) Yankton

Medical School Affairs

Medical Education and Hospitals

T. J. Wrage, Jr., M.D. (1963) Watertown
R. C. Jahraus, M.D. (1963) Pierre
Ronald Price, M.D. (1961) Armour
Warren Jones, M.D. (1961) Sioux Falls
W. H. Saxton, M.D. (1962) Huron
F. R. Williams, M.D. (1962) Rapid City

Medical Economics

M. Davidson, M.D., Chr. (1961) Brookings
Abner, Willen, M.D. (1962) Clark
T. H. Sattler, M.D. (1963) Yankton

Necrology

L. L. Parke, M.D., Chr. (1961) Canton
E. J. Batt, M.D. (1962) Sisseton
R. E. Bormes, M.D. (1963) Aberdeen

Public Health

N. E. Wessman, M.D., Chr. (1963) Sioux Falls
T. E. Mead, M.D. (1961) Spearfish
J. T. Cowan, M.D. (1962) Pierre

Cancer

P. V. McCarthy, M.D., Chr. (1963) Aberdeen
E. G. Huppler, M.D. (1962) Watertown
G. F. McIntosh, M.D. (1961) Eureka

Tuberculosis

W. L. Meyer, M.D., Chr. (1963) Sanator
B. T. Lenz, M.D. (1962) Huron
R. J. Bareis, M.D. (1961) Rapid City

Maternal & Child Welfare

Brooks Ranney, M.D., Chr. (1962) Yankton
L. W. Tobin, M.D. (1961) Mitchell
N. R. Whitney, M.D. (1963) Rapid City

Diabetes

M. E. Sanders, M.D., Chr. (1962) Redfield
Clifford Gryte, M.D. (1963) Huron
T. J. Billion, Jr., M.D. (1961) Sioux Falls

Executive Committee

C. R. Stoltz, M.D., Chr. Watertown
J. J. Stransky, M.D. Watertown
C. J. McDonald, M.D. Sioux Falls
R. H. Hayes, M.D. Winner
A. P. Reding, M.D. Marion
Magni Davidson, M.D. Brookings

Grievance Committee

L. J. Pankow, M.D., Chr. (1962) Sioux Falls
M. M. Morrissey, M.D. (1964) Pierre
R. A. Buchanan, M.D. (1965) Huron
Wm. Saxton, M.D. (1961) Huron
A. P. Peeke, M.D. (1963) Volga

Mental Health

E. S. Watson, M.D., Chr. (1961) Brookings
Lawrence Behan, M.D. (1963) Yankton
R. C. Knowles, M.D. (1962) Sioux Falls
H. A. Bowes, M.D. (1962) Aberdeen
James Gilbert, M.D. (1963) Aberdeen
R. B. Leander, M.D. (1961) Sioux Falls

Benevolent Fund

W. E. Donahoe, M.D., Chr. (1963) Sioux Falls
J. C. Hagin, M.D. (1961) Miller
F. C. Totten, M.D. (1959) Lemmon

Rheumatic Fever and Heart Disease

J. Argabrite, M.D., Chr. (1961) Watertown
G. Q. Olson, M.D. (1962) Rapid City
H. W. Farrell, M.D. (1963) Sioux Falls

SPECIAL COMMITTEES

Radio Broadcasts and Telecasts Committee

Wm. Taylor, M.D., Chr. Aberdeen
P. S. Nelson, M.D. Watertown
K. A. Dregseth, M.D. Yankton
E. H. Peters, M.D. Sioux Falls
R. A. Boyce, M.D. Rapid City
F. D. Leigh, M.D. Huron
S. B. Simon, M.D. Pierre

American Medical Education Foundation

S. F. Sherrill, M.D., Chr. Belle Fourche
Vernon Cutshall, M.D. Sioux Falls
O. J. Mabee, M.D. Mitchell
H. L. Saylor, Jr., M.D. Huron
J. H. DeGreest, M.D. Miller

Editorial

R. E. Van Demark, M.D., Chr. Sioux Falls
Hugo Andre, M.D. Vermillion
J. A. Anderson, M.D. Madison
B. O. Lindbloom, M.D. Pierre
G. E. Tracy, M.D. Watertown
Mary Price, M.D. Armour
W. R. J. Kilpatrick, M.D. Huron
H. B. Munson, M.D. Rapid City
R. F. Thompson, M.D. Yankton

Medical Licensure

D. L. Kegaries, M.D., Chr. Rapid City
G. R. Bartron, M.D. Watertown
C. E. Kemper, M.D. Viborg

Veterans Administration & Military Affairs

L. C. Askwig, M.D., Chr. ..... Pierre
D. N. Fedt, M.D. ..... Watertown
G. H. Steele, M.D. ..... Aberdeen
T. J. Billion, M.D. ..... Sioux Falls

Spafford Memorial Fund

T. E. Eyres, M.D. ..... Vermillion

Prepayment and Insurance Plans

D. H. Breit, M.D., Chr. ..... Sioux Falls
H. Russell Brown, M.D. ..... Watertown
Paul Hohm, M.D. ..... Huron
E. A. Johnson, M.D. ..... Milbank
J. T. Elston, M.D. ..... Rapid City
B. F. King, M.D. ..... Aberdeen
M. A. Auld, M.D. ..... Yankton

Rural Medical Service

A. P. Peeke, M.D., Chr. ..... Volga
G. J. Bloemendaal, M.D. ..... Ipswich
E. F. Kalda, M.D. ..... Platte

Nursing Training

J. A. Muggly, M.D., Chr. ..... Madison
C. L. Vogele, M.D. ..... Aberdeen
D. J. Buchanan, M.D. ..... Huron

Workmen's Conmpensation

R. R. Giebink, M.D., Chr. ..... Sioux Falls
H. J. Bartron, M.D. ..... Watertown
H. R. Lewis, M.D. ..... Mitchell

Clinical Pathology Committee

W. A. Geib, M.D., Chr. ..... Rapid City
R. L. Carefoot, M.D. ..... Huron
A. K. Myrabo, M.D. ..... Sioux Falls

Rehabilitation Committee

George Smith, M.D., Chr. ..... Sioux Falls
Paul Bunker, M.D. ..... Aberdeen
D. Hillan, M.D. ..... Madison
C. F. J. Blunck, M.D. ..... Rapid City
R. E. Van Demark, M.D. ..... Sioux Falls

Press Radio Committee

P. P. Brogdon, M.D., Chr. ..... Mitchell
Steve Brzica, M.D. ..... Sioux Falls
E. A. Rudolph, M.D. ..... Aberdeen

Care of the Indigent

H. P. Adams, M.D., Chr. ..... Huron
A. P. Peeke, M.D. ..... Volga
H. Russell Brown, M.D. ..... Watertown
R. E. Greenfield, M.D. ..... Sioux Falls
M. M. Morrissey, M.D. ..... Pierre
E. J. Perry, M.D. ..... Redfield
R. F. Hubner, M.D. ..... Yankton
C. A. Johnson, M.D. ..... Lemmon

Committee on Civil Defense

G. J. Van Heuvelen, M.D., Chr. ..... Pierre
W. E. Donahoe, M.D. ..... Sioux Falls

Commission for Improvement of Patient Care

D. J. Buchanan, M.D., Chr. (1962) ..... Huron
V. R. Vonburg, M.D. (1963) ..... Mitchell
M. Sanders, M.D. (1963) ..... Redfield
C. L. Vogele, M.D. (1961) ..... Aberdeen
C. F. Gryte, M.D. (1961) ..... Huron
J. A. Muggly, M.D. (1962) ..... Madison

Committee on School Health

W. R. Anderson, M.D., Chr. ..... Sioux Falls
G. E. Tracy, M.D. ..... Watertown
T. E. Eyres, M.D. ..... Vermillion

Committee on Budget and Audit

A. P. Reding, M.D., Chr. ..... Marion
A. K. Myrabo, M.D. ..... Sioux Falls
C. R. Stoltz, M.D. ..... Watertown

Committee on Aging

Warren Jones, M.D., Chr. ..... Sioux Falls
C. F. Johnson, M.D. ..... Yankton
R. J. Bareis, M.D. ..... Rapid City

Committee on Coroner's Law

W. A. Geib, M.D., Chr. ..... Rapid City
R. L. Carefoot, M.D. ..... Huron
R. H. Hayes, M.D. ..... Winner

Committee on Traffic Safety

J. J. Stransky, M.D., Chr. ..... Watertown
R. L. Lillard, M.D. ..... Madison
H. L. Saylor, M.D. ..... Huron

Medical - Legal Conference Committee

C. L. Swanson, M.D., Chr. ..... Pierre
Ted Hohm, M.D. ..... Huron
O. P. Erickson, M.D. ..... Valley Springs

Liaison Committee with the South Dakota Pharmaceutical Association

R. H. Hayes, M.D., Chr. ..... Winner
P. P. Brogdon, M.D. ..... Mitchell
J. N. Berbos, M.D. ..... Aberdeen

FIRST COUNCIL MEETING
Saturday, May 14, 1960
South Dakota State Medical Association
Alonzo Ward Hotel
Aberdeen, South Dakota

The meeting was called to order by Chairman R. H. Hayes at 3:40 P.M. Mr. Foster took the Roll Call. Present were Drs. R. A. Buchanan, C. R. Stoltz, C. J. McDonald, A. P. Reding, Magni Davidson, A. A. Lampert, E. J. Perry, J. J. Stransky, M. C. Tank, L. C. Askwig, Paul Hohm, P. P. Brogdon, N. E. Wessman, T. H. Sattler, R. H. Hayes, H. E. Lowe, and E. A. Johnson.

Dr. Brogdon moved to dispense with the reading of the minutes of the previous meeting inasmuch as they have been published in the Journal. Dr. Stoltz seconded the motion and it was carried. Mr. James S. Hopkins spoke to the Council on behalf of the South Dakota Taxpayers Association.

Mr. Foster discussed the office function survey and, read the recommendation of the Executive Committee which was made to the Council as follows: As directed by the Council, the Executive Committee considered the report of the Executive office on the utilization of personnel, salary scales, etc., and wishes to recommend to the Council the acceptance of the report as proposed. The Executive Committee also wishes to recommend to the Council that the position of Assistant Executive Secretary be established on a par with the position of Assistant Director of Blue Shield, and that the position be offered to the present Office Manager, Miss Phyllis Sundstrom. Dr. Sattler moved that the recommendation be accepted by the Council. Dr. Davidson seconded the motion and it was carried.

Mr. Foster explained the background of the booklet proposed for public relation purposes and the estimated cost of printing same. Dr. Lampert moved that the Council accept the booklet as proposed and that 5000 copies be printed. Dr. Stoltz seconded the motion and it was carried.

Dr. Davidson spoke to the Council on the recommendations of the Committee on Medical Economics concerning the group loss-of-time program. He briefly explained the Mutual of Omaha proposal. A suggestion was made that Mr. Diers be asked to appear before the Council and other companies be allowed to present their plans before any action is taken. Dr. Sattler moved that the matter be referred to the Medical Economics Committee for further study and that the Committee request other companies to submit proposals, including the Diers Agency, to determine if better benefits might be derived from an improved policy or more effective sales coverage. Dr. Stransky seconded the motion and it was carried.

A recommendation of the Executive Committee on VA Home Town Care was presented as follows: The Executive Committee recommends to the Council that it is the feeling of the Executive Committee that the Association prefers an Intermediary Contract with the Veterans Administration as had previously been in force, but that as a second choice, they feel that a Letter of Agreement was preferable to having no relationship with the V.A. whatsoever. Dr. Hohm moved that the recommendation be accepted. Dr. Johnson seconded the motion and it was carried.

The Relative Value Study, as submitted by the Prepayment and Insurance Committee was considered. Dr. Stoltz moved that the Relative Value Study as proposed be referred to the House of Delegates for consideration. Dr. Perry seconded the motion and it was carried.

Mr. Foster reported on the progress of the building program. He read the resolution from the Blue Shield Board concerning a loan of $25,000.00 for the building fund. Dr. Johnson moved that the Council accept the recommendation as read, from the Blue Shield Board. The motion was seconded by Dr. Tank and carried. Dr. Tank moved that $5,000.00 be transferred from the Journal account to the Building Fund account, to be available for completing the grounds of the building and to buy furnishings, as necessary. Dr. Perry seconded the motion and it was carried.

The Council then considered nominations to be forwarded to the Governor for consideration for appointment to the South Dakota State Board of Medical Examiners to succeed Dr. C. B. McVay of Yankton. Dr. Stoltz moved that the following named physicians be recommended for consideration to the Governor: Dr. Bernard F. King, Aberdeen; Dr. P. P. Brogdon, Mitchell, and Dr. S. M. Brzica of Sioux Falls. Dr. Buchanan seconded the motion and it was carried.

The Council then considered nominees for appointment to the Board of Basic Science Examiners inasmuch as Dr. C. E. Kemper's term expires this year. Dr. Sattler moved that the Council recommend the following named physicians to the Governor for consideration for appointment to the Board of Basic Science Examiners: Dr. C. E. Kemper, Viborg; Dr. John V. McGreevy, Sioux Falls; and Dr. Gordon Paulson of Rapid City. Dr. Wessman seconded the motion and it was carried.

The Council considered a proposed Pharmacy Board regulation. Dr. Stransky moved that the Council refer the matter to the Liaison Committee with the Pharmaceutical Association and request that they return a recommendation to the Council after the pharmaceutical group has taken definitive action. Dr. Stoltz seconded the motion. Dr. Sattler moved that the motion be amended to instruct the Liaison Committee to oppose such a proposal during their negotiations with the pharmaceutical group. Dr. Brogdon seconded the motion to amend the original motion. The amendment was carried. The original motion, as amended, was then voted on and duly carried.

The Council considered a letter from the Council on Medical Service of the American Medical Association concerning Dr. H. Russell Brown's activities during the past year with that Council. Dr. Stoltz moved that the Council recommend to the House of Delegates that the Committee on Resolutions and Memorials draw up a resolution expressing the appreciation of the South Dakota State Medical Association regarding Dr. H. Russell Brown's AMA activities. Dr. Brogdon seconded the motion and it was carried.

A request from the National Society for Medical Research for funds was considered. Dr. Perry moved that the Association make the same contribution as last year, which was $50.00, to this Society. Dr. Johnson seconded the motion and it was carried.

A letter from the North Central Conference concerning the Hospitality Room at The AMA convention in Miami Beach was read and considered. Dr. Stoltz moved that the State Association participate in this arrangement at this time, with a limit of $100.00, and that we make efforts at the North Central meeting to determine whether or not everyone feels this expenditure twice a year is justified. Dr. Lampert seconded the motion and it was carried.

Mr. Foster explained a request of the U. S. Chamber of Commerce for the Association to join as a $50.00 a year member. Dr. Brogdon moved that we join the U. S. Chamber of Commerce as a $50.00 per year member. Dr. Hohm seconded the motion and it was carried.

A letter was read from the Rural Nursing Advisory Committee asking for an appointment to that Committee as Dr. J. A. Muggly's term expires this year. Dr. Lampert moved that the Council recommend that Dr. J. A. Muggly of Madison be re-appointed to the Rural Nursing Advisory Committee. Dr. Tank seconded the motion and it was carried.

A letter received from the A. H. Robins Company concerning an award to a physician each year for community service was read. Dr. Tank moved that the South Dakota State Medical Association participate in the suggested program with the A. H. Robins Company. Dr. Stoltz seconded the motion and it was carried.

Mr. Foster read the recommendations of the

Budget and Audit Committee for the proposed 1960-61 budget. Dr. Tank moved that the proposed budget be accepted and recommended to the House of Delegates for adoption. Dr. Buchanan seconded the motion and it was carried.

COMBINED OPERATING BUDGET
1960-1961

INCOME

Association Activities

State Dues	$31,500.00
Annual Meeting	6,500.00
Interest	200.00
Miscellaneous	1,200.00
Salary Reimbursements	500.00
Car Reimbursement	690.00
Medical-Legal Conference	1,600.00
Public Relations transfer from Journal	2,000.00
	$44,190.00

INCOME

Journal Activities

Advertising	$44,000.00
Subscriptions	1,200.00
	$45,200.00

EXPENSES

Association Activities

Salary-Ex. Sec'y	$7,500.00
Salary, Other	5,230.00
Social Security	200.00
Legal and Audit	600.00
Rent	2,400.00
Telephone & Telegraph	1,200.00
Office Supplies, Equip.	2,800.00
Dues & Subscriptions	1,200.00
Officers & Councillors Tr.	2,500.00
Annual Meeting	6,000.00
Public Relations	1,250.00
Taxes	300.00
Uemployment Taxes	80.00
Postage	1,170.00
Legislative Exp.	3,000.00
Benevolent Fund	400.00
Medical School End.	200.00
Ladies Auxiliary	550.00
Refunds	200.00
Clinical Pathology	750.00
Car Expenses	1,000.00
Medical-Legal	1,600.00
Executive Sec'y Tr.	3,000.00
	$43,130.00

EXPENSES

Journal Activities

Salary, Bus. Manager	$ 3,600.00
Salary, Editors	1,440.00
Salary, Staff Asst's.	6,620.00
Social Security	200.00
Legal & Audit	100.00
Rent	1,800.00
Telephone & Telegraph	150.00
Office Supplies & Equip.	26,000.00
Taxes	50.00
Unemployment Taxes	20.00
Postage	360.00
Travel Expenses	2,000.00
Public Relations transfer to Ass'n.	2,000.00
	$44,340.00

INCOME

Association Activities
(Group Life Insurance)

Insurance Premiums	$24,000.00

AMA INCOME

Dues Payment	$11,800.00
	$11,800.00

BUILDING FUND

Blue Shield Rent	$3,300.00
Association Rent	2,000.00
National Foundation Rent	750.00
Journal Rent	1,500.00
Board of Examiners Rent	250.00
Nurses Ass'n.	675.00
	$ 8,475.00

EXPENSES

Association Activities
(Group Life Insurance)

Payments to Ins. Co.	$23,000.00
Postage	30.00
Salary	50.00
Legal & Audit	50.00
Supplies	20.00
	$23,150.00

AMA DUES

Payment to AMA	$11,800.00
	$11,800.00

BUILDING FUND

Janitor & Repair	$ 667.00
Utilities	1,800.00
Interest	2,500.00
Repayment of Loans	1,900.00
Taxes	1,560.00
	$ 8,427.00

The Council then considered a request from the Committee for Education in South Dakota for the Association to join their organization. Dr. Perry moved that the Council reject the invitation to join the Committee for Education in South Dakota. Dr. Tank seconded the motion, and it was carried.

Mr. Foster then read a letter concerning a case in which a doctor charged the insurance company a higher fee than what he charged the patient for services rendered. A discussion on this situation followed. Dr. Brogdon suggested that the Association let it be known to the profession that it does not condone this practice. Dr. Sattler moved that a mimeographed letter be sent out to the members of the Association on this matter, and that the individual who wrote the letter be informed of the action that has been taken. The letter to be sent out is to be over the President of the Association's signature. Dr. Tank seconded the motion and it was carried.

The Council then considered the Distinguished Service Award for 1960. Dr. Lampert moved that Dr. L. J. Pankow of Sioux Falls be the recipient of this award. Dr. Buchanan seconded the motion and it was carried.

The meeting adjourned at 6:00 P.M.

SECOND COUNCIL MEETING
Monday, May 16, 1960
South Dakota State Medical Association
Aberdeen Country Club
Aberdeen, South Dakota

The meeting was called to order by Dr. Robert Hayes, chairman of the Council, at 9:30 P.M. Mr. Foster took the roll call. Present were Drs. R. A. Buchanan, C. Rodney Stoltz, C. J. McDonald, A. P. Reding, Magni Davidson, J. J. Stransky, E. J. Perry, M. C. Tank, L. C. Askwig, P. P. Brogdon, N. E. Wessman, T. H. Sattler, R. H. Hayes, and E. P. Sweet.

The first order of business was election of the Chairman of the Council for the coming year. Dr. Brogdon nominated Dr. J. J. Stransky. The nomination was seconded by Dr. Davidson. Dr. Stoltz moved that nominations cease and that a unanimous ballot be cast for Dr. Stransky. Dr. Perry seconded this motion and it was carried.

Dr. Stransky then took over the chairmanship and conducted the remainder of the meeting.

Dr. Brogdon moved that the reading of the minutes be dispensed with as they will be published in the Journal in the near future. This motion was seconded by Dr. McDonald and carried.

Mr. Foster introduced Mr. Wes Duiker of the State Department of Health concerning the proposed health museum. He requested that the South Dakota State Medical Association consider the following points in support of the proposed museum.

1. Appoint or authorize a member of the Association to represent South Dakota Medical Association on the Board of Trustees, South Dakota Museum of Health to be incorporated early in June.
2. Be the major sponsor of the "TTL" exhibit at the State Fair; in lieu of sponsoring it, we request both financial support and endorsement of the plan to exhibit this model.
3. Lend professional support to the proposed museum especially at the local levels. That is to both educate the people concerning this project in both casual and incidental ways and when possible to spearhead public campaign by filtering materials to the local Chambers, Service Clubs, P.T.A.'s, etc.
4. Cooperate and lend lobby support for the bill which is to be introduced to the Legislature for $80,000 which will be added to the $20,000 that the Fair Board is now contemplating earmarking for this museum building project.
5. Authorize and finance an exhibit such as the "Wonder of A New Life" series as the South Dakota Medical Associations contribution to the Museum exhibit program.

Dr. Perry moved that the Council authorize participation in the exhibit at the State Fair this year, with expenditures not to exceed $100.00 from Public Relation Funds. The motion was seconded by Dr. Sattler and carried.

Dr. Sattler moved that the Chairman of the Council appoint a member of the State Association to represent it at the meetings leading to incorporation of a Health Museum. Dr. Hayes seconded the motion and it was carried.

Dr. Sattler brought up the matter of Army Reserve examinations and a discussion on this subject followed. Dr. Sattler moved that the Council take action and attempt to establish such examinations on the basis of Medicare fees and to carry such action to the other states in an attempt to promote a coordinated agreement with the Federal Army Reserve Examination Board. Dr. Stoltz seconded the motion and it was carried.

Mr. Foster read a letter from Dr. Carroll P. Hungate concerning representation at the Annual Meeting of the U. S. Civil Defense Council in Minneapolis in September. Dr. Brogdon moved that Dr. G. J. Van Heuvelen be asked to attend the meeting and represent the South Dakota State Medical Association. Dr. Tank seconded the motion and it was carried.

The meeting adjourned at 10:15 P.M.

FIRST HOUSE OF DELEGATES MEETING
May 14, 1960
South Dakota State Medical Association
Alonzo Ward Hotel
Aberdeen, South Dakota

The meeting was called to order at 7:30 P.M. by Speaker of the House Dr. Magni Davidson. Dr. Davidson appointed the Reference Committee on Credentials as follows: Dr. Roscoe Dean, chairman; Dr. H. E. Lowe, and Dr. J. J. Feehan. Answering Roll Call were Drs. R. A. Buchanan, C. R. Stoltz, A. P. Reding, C. J. McDonald, A. A. Lampert, Magni Davidson, E. J. Perry, J. J. Stransky, M. C. Tank, L. C. Askwig, Paul Hohm, P. P. Brogdon, N. E. Wessman, T. H. Sattler, R. H. Hayes, H. E. Lowe, E. A. Johnson, M. C. Rousseau, S. J. Walters, J. A. Anderson, D. L. Scheller, S. W. Fox, C. L. Swanson, T. A. Hohm, Roscoe Dean, J. H. Lloyd, Jr., John Donahoe, R. R. Giebink, J. V. McGreevy, A. K. Myrabo, O. P. Erickson, R. F. Hubner, J. P. Steele, R. A. Boyce, W. A. Geib, W. E. Jones, E. P. Sweet, John Lowe, and H. H. Brauer.

Dr. Steele moved that the reading of the minutes of the last meeting be dispensed with as they have been published in the Journal. Dr. Tank seconded the motion and it was carried. Dr. Jones moved to dispense with the reading of the reports of officers inasmuch as they have been printed and are available in the Delegates Handbook. Dr. Johnson seconded the motion and it was carried.

Dr. Davidson then appointed the reference committees as follows: Credentials as previously reported; Reports of Officers and Councilors, Dr. Paul Hohm, Chairman, Drs. R. A. Boyce, and O. P. Erickson; Resolutions and Memorials, Dr. R. F. Hubner, Chairman, Drs. E. A. Johnson, and S. J. Walters; Reports of Standing Committees, Dr. M. C. Rousseau, Chairman, Drs. M. C. Tank, and P. P. Brogdon; Reports of Special Committees and Miscellaneous Business, Dr. A. K. Myrabo, chairman, Drs. C. L .Swanson, and N. E. Wessman; Nominating Committee, Dr. J. Donahoe, Chairman, Drs. C. L. Vogele, J. J. Stransky, D. L. Scheller, S. W. Fox, T. A. Hohm, J. A. Lloyd, Jr., J. P. Steele, W. E. Jones, E. P. Sweet, J. Lowe, and H. H. Brauer; Constitution and Bylaws, Dr. W. A. Geib, Chairman, Drs. R. R. Giebink, and E. J. Perry.

A resolution submitted by the Yankton District Medical Society was introduced. Dr. Steele explained the background of the resolution.

RESOLUTION #1

Submitted by the Yankton District Medical Society

Be it resolved by the South Dakota State Medical Association that the sale of drugs, such as antibiotics and hormones, by persons other than licensed pharmacists be prohibited by law.

Dr. Davidson referred the resolution to the Reference Committee on Special Committees and Miscellaneous Business.

A resolution was submitted by the Black Hills District Medical Society. Dr. Jones introduced the resolution.

RESOLUTION #2

WHEREAS: The South Dakota State Medical Association has as a prime objective, the betterment of health for all people, and,

WHEREAS: both major political parties have proposed governmentally financed programs of health care for the aged, and

WHEREAS: neither program considers the real needs that exists but rather consider what they feel to be politically attractive; both being based on the false premise that all people over age 65 are destitute;

THEREFORE, NOW BE IT RESOLVED that the South Dakota State Medical Association do recommend the following program for consideration by both major political parties and by the public generally:

1. Implementation of a state-wide medical care program for the indigent aged as supported by the Medical Association in 1957 and 1959 sessions of the legislature.
2. Possible implementation of the above program to provide services to the near-needy who do not meet the rigid requirements for indigency under OAA.

3. Improvement locally of nursing home facilities.
4. Broadening of voluntary health insurance plans to cover aged with ability to purchase coverage.
5. Removal of the $1200 per annum ceiling of earnings of Social Security beneficiaries.

Dr. Davidson referred the resolution to the Reference Committee on Special Committes and Miscellaneous Business for action.

The following recommendation to the House of Delegates from the Council was read. The Council recommends that the Relative Value Study be referred to the House of Delegates for consideration. Dr. Davidson referred the recommendation to the Reference Committee on Special Committees and Miscellaneous Business.

The following recommendation from the Council was read: The Council recommends to the House of Delegates that the Reference Committee on Resolutions draw up a resolution expressing the appreciation of the South Dakota State Medical Association regarding Dr. H. Russell Brown's activities on the AMA's Council on Medical Service. The recommendation was referred to the Reference Committee on Resolutions and Memorials. Mr. Foster then read the report of the Committee on Budget and Audit. Dr. Rousseau moved that the House of Delegates accept the recommendation of the Council to adopt the proposed budget. Dr. Myrabo seconded the motion and it was carried.

The meeting adjourned at 8:20 P.M.

SECOND HOUSE OF DELEGATES MEETING
May 15, 1960
Suth Dakota State Medical Association
Alonzo Ward Hotel
Aberdeen, South Dakota

The second House of Delegates meeting was called to order at 2:00 P.M. by Dr. Magni Davidson, Speaker of the House.

Present at Roll Call were Drs. R. A. Buchanan, C. R. Stoltz, C. J. McDonald, A. P. Reding, Magni Davidson, E. J. Perry, J. J. Stransky, M. C. Tank, L. C. Askwig, Paul Hohm, P. P. Brogdon, N. E. Wessman, T. H. Sattler, R. H. Hayes, E. A. Johnson, C. L. Vogele, R. Berzins, M. C. Rousseau, S. J. Walters, J. A. Anderson, D. L. Scheller, S. W. Fox, C. L. Swanson, T. H. Hohm, J. H. Lloyd, Jr., J. Donahoe, R. R. Giebink, J. V. McGreevy, A. K. Myrabo, O. P. Erickson, R. F. Hubner, W. F. Stanage, R. A. Boyce, H. L. Ahrlin, W. A. Geib, W. E. Jones, R. J. Bareis, E. P. Sweet, John Lowe, and H. H. Brauer.

Dr. John Donahoe read the report of the Nominating Committee as follows: The Nominating Committee presents the following slate of candidates: President, C. Rodney Stoltz, M.D.; President Elect, C. J. McDonald, M.D.; Vice President, Magni Davidson, M.D.; Speaker of the House, R. H. Hayes, M.D.; Delegate to AMA, A. A. Lampert, M.D.; Alternate Delegate to AMA, A. P. Reding, M.D.; Councilor from the 3rd District, M. C. Tank, M.D.; Councilor from the 5th District, Paul Hohm, M.D.; Councilor from the Sixth District, P. P. Brogdon, M.D.; Councilor from the 7th District, N. E. Wessman, M.D.; and Councilor from the 10th District to replace Dr. Hayes and complete his unexpired term, E. P. Sweet, M.D. Dr. Sattler moved that nominations cease and that a unanimous ballot be cast for the slate of officers. Dr. Swanson seconded the motion and it was carried.

The minutes of the previous meeting were read. As there were no corrections or additions, the minutes were approved as read.

Dr. Davidson announced that the Report of the Reference Committee on Credentials would be read at the close of the annual meeting.

Dr. Paul Hohm read the Report of the Reference Committee on Reports of Officers and Councilors. Dr. Hohm moved that the report be adopted. Dr. Stoltz seconded the motion and it was carried.

Dr. Hubner read the Report of the Reference Committee on Resolutions and Memorials. Dr. Hubner moved that the report be adopted. Dr. Swanson seconded the motion and it was carried.

Dr. Hubner read a resolution expressing thanks to Dr. H. Russell Brown for his work on the AMA's Council on Medical Service. Dr. Hubner moved that the resolution be adopted. Dr. Reding seconded the motion and it was carried.

Dr. Rousseau read the Report of the Reference Committee on Standing Committees. Dr. Rousseau moved the adoption of the first section of his report. The motion was seconded by Dr. Swanson and carried. Dr. Rousseau read the second section of his Committee report and moved the adoption of that section by the House of Delegates. Dr. Donahoe seconded the motion and it was carried.

Dr. Myrabo read the report of the Reference Committee on Special Committees and Miscellaneous Business. Dr. Myrabo moved the adoption of the Committee recommendations on the Special Committee reports. Dr. McDonald seconded the motion and it was carried.

Dr. Myrabo read the following recommendation concerning Resolution #1: The Committee recommends that Resolution #1, as submitted by the Yankton District Medical Society be not adopted. Dr. Myrabo moved the adoption of this recommendation. Dr. Swanson seconded the motion and it was carried.

Dr. Myrabo read the following recommendation concerning Resolution #2: The Committee recommends adoption of #2, submitted by the Black Hills District Medical Society, stressing again that all such programs be controlled at the County level. Dr. Myrabo moved the adoption of this recommendation. Dr. Jones seconded the motion and it was carried.

Dr. Myrabo read the following recommendation concerning the Relative Value Study: As the Relative Value Study is in no way deemed a fee schedule, it is the recommendation of this Committee that wordings referring to a fee be eliminated from the publication. The Committee further recommends adoption of the Relative Value Study as published, with the provision that any changes or discrepancies arising be referred for study and alteration as deemed necessary, to the Committee on Prepayment and Insurance Plans, they being instructed to utilize the services of the Fee Advisory Board, as set up by the Blue Shield Board. Dr. Myrabo moved the adoption of this recommendation. Dr. Swanson seconded the motion and it was carried.

Dr. Myrabo moved the acceptance of the Reference Committee on Special Reports and Miscellaneous Business in its entirety. The motion was seconded by Dr. McDonald and carried.

A short discussion on the Medicolegal Conference was held, but no action taken.

Dr. Hubner requested the unanimous consent of the House of Delegates to introduce a new item of business. This request was granted. Dr. Hubner moved that the 1963 annual meeting be held at Yankton, South Dakota, and that the Yankton and Seventh Districts be given permission to negotiate between the two Districts to change the 1961 meeting place to Yankton, and the 1963 meeting place to Sioux Falls. Dr. Sattler seconded the motion and it was carried.

Dr. Davidson administered the oath of office to Dr. C. Rodney Stoltz, the president for 1960-61. He then introduced the newly elected officers and councilors.

Dr. Wayne Geib read the report of the Reference

Committee on Constitution and Bylaws. Dr. Geib moved the adoption of the Articles of Incorporation as published and amended. Dr. McDonald seconded the motion and it was carried.

Dr. Geib moved the adoption of Article III of the Bylaws as published and amended. This motion died for lack of a second. Dr. McGreevy moved that the amended portion of Article III, Section 2c: referring to the Veterans Administration be referred back to the Committee for further study, and that Article III be approved as amended with this deletion. Dr. Vogele seconded this motion and it was carried.

Dr. Geib moved the adoption of Article 4 as published and amended. The motion was seconded by Dr. Myrabo and carried.

Dr. Geib moved the adoption of Article 5 as published and amended. The motion was seconded by Dr. Myrabo and carried.

Dr. Geib moved the adoption of Article 6 as published and amended. Dr. McDonald seconded the motion and it was carried.

Dr. Geib moved the adoption of Article 7 as published and amended. Dr. McDonald seconded the motion and it was carried.

Dr. Geib moved the adoption of Article 8 as published and amended. Dr. Hubner seconded the motion and it was carried.

Dr. Geib moved the adoption of Article 9 as published and amended. Dr. Wessman seconded the motion and it was carried.

Dr. Geib moved the adoption of Article 1 as published and amended. Dr. Anderson seconded the motion and it was carried.

Dr. Geib moved the adoption of the Bylaws as published and adopted. The motion was seconded by Dr. Stoltz and carried.

Dr. Geib moved the adoption of the Articles of Incorporation and Bylaws as published and amended, as a whole. The motion was seconded by Dr. Stoltz and carried.

Mr. Foster made several announcements concerning the evening's activities and the scientific sessions to begin on Monday morning.

The meeting adjourned at 3:15 P.M.

AUDIT AND APPROPRIATIONS COMMITTEE MEETING

Saturday, May 14, 1960
Alonzo Ward Hotel
Aberdeen, South Dakota

The Audit and Appropriations Committee met in Room 216 at 1:30 P.M. Present were Drs. A. P. Reding, Chr., Drs. A. A. Lampert, C. Rodney Stoltz, and Executive Secretary John C. Foster.

Dr. Lampert moved that the Committee accept the 1959-1960 CPA audit of the South Dakota State Medical Association. Dr. Stoltz seconded the motion and it was carried. A discussion was held on the proposed budget for 1960-1961 and changes made. Dr. Lampert moved that the committee authorize expenses of $750.00 for the Clinical Pathology Committee for one year only. Seconded by Dr. Stoltz and carried. Dr. Lampert moved that the 1960-1961 budget be accepted as changed. Dr. Stoltz seconded the motion and it was carried.

The meeting adjourned at 3:30 P.M.

PRESIDENTIAL OATH OF OFFICE

I solemnly swear that I shall carry out the duties of the President of the South Dakota State Medical Association to the best of my ability. I shall strive constantly to maintain the ethics of the medical profession and to promote the public health and welfare. I shall dedicate myself and my office to improving health standards and to the task of bringing increasingly improved medical care to the people of South Dakota. I shall uphold the Constitution and Bylaws of the AMA and the South Dakota State Medical Association. I shall champion the cause of freedom in medical practice and freedom for all my fellow Americans.

I do solemnly swear that I will discharge the duties of this office to the best of my ability, so help me God.

REPORT OF THE REFERENCE COMMITTEE ON CREDENTIALS

A quorum was present for the meeting of the House of Delegates and the credentials of those in attendance were in order. Total registration for the convention was 367, including 156 physicians, 65 guests, 76 exhibitors, and 70 Auxiliary members.

Respectfully submitted,
Reference Committee on Credentials
Roscoe Dean, M.D., Chr.
H. E. Lowe, M.D.

REPORT OF THE REFERENCE COMMITTEE ON REPORTS OF OFFICERS AND COUNCILORS

Our Committee reviewed the Reports of the Officers and the Councilors. The Committee found the report of the 11th District missing. The Committee felt the report should be added, even if at a later date.

The Report of the 3rd District made referral to a resolution rejecting instructions of the State President. It was felt that the resolution should have been part of the report.

It was also felt that the Report of the 7th District was rather brief considering that they had eight meetings during the year.

With the above notations, it is recommended that the Reports of Officers and Councilors be accepted.

I move the adoption of this report.

Respectfully submitted,
Reference Committee on Reports of Officers and Councillors
Paul Hohm, M.D., Chr.
R. A. Boyce, M.D.
O. P. Erickson, M.D.

REPORT OF THE REFERENCE COMMITTEE ON RESOLUTIONS AND MEMORIALS

WHEREAS, the Aberdeen District Medical Society and the Ladies Auxiliary members have been so thorough in making arrangements for the success of the combined meeting of our 79th Anniversary,

BE IT RESOLVED, that the South Dakota State Medical Association give its voice in appreciation and thanks to the local physicians in Aberdeen, and their wives.

WHEREAS, the management of the Alonzo Ward Hotel and the Sherman Hotel have been so cooperative in providing facilities for the success of the 79th Anniversary meeting of the South Dakota State Medical Association,

BE IT RESOLVED, that the South Dakota State Medical Association extend its thanks and appreciation to the Alonzo Ward Hotel and the Sherman Hotel.

WHEREAS, the Chamber of Commerce has provided excellent service in making it possible for the success of the working arrangements,

BE IT RESOLVED, that the South Dakota State Medical Association extend its thanks and appreciation to the Aberdeen Chamber of Commerce.

WHEREAS, the Aberdeen American News and Radio Stations KSDN and KABR have been most cooperative in presenting the public news of the 79th annual meeting of the South Dakota State Medical Association,

BE IT RESOLVED, that the South Dakota State Medical Association extend its thanks to the Aberdeen American News and Radio Stations KSDN and KABR.

WHEREAS, the American Legion Club of Aberdeen, has provided facilities for the Stag Party and contributed much to the success of the meeting and entertainment,

BE IT RESOLVED, that the South Dakota State Medical Association extend its thanks to the American Legion Club of Aberdeen.

WHEREAS, the Aberdeen Country Club has provided facilities for the banquet and contributed much to the success of the meeting and entertainment,

BE IT RESOLVED, that the South Dakota State Medical Association extend its thanks to the Aberdeen Country Club.

WHEREAS, the Civic Arena has been so cooperative in providing facilities for the scientific sessions of the 79th annual meeting of the South Dakota State Medical Association,

BE IT RESOLVED, that the South Dakota State Medical Association extend its thanks and appreciation to the Civic Arena.

WHEREAS, Dr. H. Russell Brown has contributed selflessly in the interests of the profession through his work on the AMA Committee an Insurance and Prepayment Plan, and

WHEREAS, Dr. H. Russell Brown has served on other committees of the AMA Council prior to the current assignment, and over the years has given generously of his time and talents to both his State and National Societies, approaching all his assignments in an exacting and diplomatic manner.

THEREFORE NOW BE IT RESOLVED THAT The South Dakota State Medical Association express its sincere appreciation of Dr. Brown's past and continuing contributions to the AMA and the South Dakota State Medical Association.

Respectfully submitted,
Committee on Resolutions and Memorials
R. F. Hubner, M.D., Chr.
E. A. Johnson, M.D.
S. J. Walters, M.D.

REPORT OF THE REFERENCE COMMITTEE ON STANDING COMMITTEES

This Committee recommends acceptance of the reports of the following committees: Committee on Scientific Work; Committee on Legislation; Committee on Medical School Affairs; Medical Education and Hospitals; Committee on Medical Defense; Committee on Necrology; Committee on Cancer; Committee on Tuberculosis; Committee on Public Health; Committee on Maternal and Child Welfare; Executive Committee, Grievance Committee; Committee on Mental Health; Committee on Benevolent Fund; Publications Committee; Committee on Rheumatic Fever and Heart Disease.

I move the adoption of the reports of the above named committees.

The Standing Committee recommends the following:

The Committee feels that the Committee on Diabetes is unnecessary and can be well handled on a local level. I move the adoption of this portion of the report.

Concerning the report of the Committee on Medical Economics, upon recommendation of the Council, this committee suggests investigation of other insurance agencies, including Diers, primarily for the purpose of improving benefits from both premium and disability features. I move the adoption of this portion of the report.

Reference Committee on
Standing Committees
Respectfully submitted,
M. C. Rousseau, M.D., Chr.
M. C. Tank, M.D.
P. P. Brogdon, M.D.

REPORT OF THE REFERENCE COMMITTEE ON SPECIAL COMMITTEES AND MISCELLANEOUS BUSINESS

The Committee recommends the acceptance of the report of the Radio Broadcast and Telecast Committee. I move the adoption of this portion of the report.

The Committee recommends the acceptance of the report of the A.M.E.F. Committee, reiterating the need of our continued active support. I move the adoption of this portion of this report.

The Committee recommends the acceptance of the report of the Committee on Medical Licensure. I move the adoption of this portion of the report.

The Committee recommends the acceptance of the Report of the Committee on Veterans and Military Affairs. I move the adoption of this portion of the report.

The Committee recommends the acceptance of the report of the Spafford Memorial Fund. I move the adoption of this portion of the report.

The Committee recommends the acceptance of the report of the Prepayment and Insurance Plans Committee, recommending commendation of members for its tremendous efforts particularly in relation to the Relative Value Study. I move the adoption of this portion of the report.

The Committee recommends the acceptance of the Nursing Training Committee report. I move the adoption of this portion of the report.

The Committee recommends the acceptance of the Report of the Workman's Compensation Committee, urging continued efforts to equalize problems ever rising with the various groups implicated, allowing equitable compensation to the attending physician. I move the adoption of this portion of the report.

The Committee recommends the acceptance of the Clinical Pathology Committee report and recommends approval by the House of Delegates of the proposed workshop and standards program. I move the adoption of this portion of the report.

The Committee recommends acceptance of the report of the Committee on Improvement of Patient Care. I move the adoption of this portion of the report.

The Committee recommends acceptance of the report of the Committee on School Health. I move the adoption of this portion of the report.

The Committee recommends acceptance of the report of the Committee on Budget and Audit. I move the adoption of this portion of the report.

The Committee recommends the acceptance of the report of the Committee on Aging, urging constant vigil and efforts to prevent Federal government control. I move the adoption of this portion of the report.

The Committee recommends the acceptance of the report of the Committee on Coroner's Law. I move the adoption of this portion of the report.

The Committee recommends the acceptance of the report of the Committee on Traffic Safety. I move the adoption of this portion of the report.

The Committee recommends acceptance of the report of the Committee on the Medicolegal Conference, hoping for even closer liaison between the South Dakota State Medical Association and Bar Association. I move the adoption of this portion of the report.

The Committee recommends the acceptance of the reports of the Liaison Committee with the S. D. Pharmaceutical Association, of the Editorial Committee, of the Committee on Rural Medical Service, of the Press Radio Committee, of the Committee on Rehabilitation, and the Committee on Indigent Care. I move the acceptance of this portion of the report.

I move the adoption of the report of the Reference Committee in its entirety.

RESOLUTION #1

The Committee recommends that Resolution #1, as submitted by the Yankton District Medical Society be not adopted. I move the adoption of this recommendation.

RESOLUTION #2

The Committee recommends the adoption of Resolution #2, submitted by the Black Hills District Medical Society, stressing again that all such programs be controlled at the County level. I move the adoption of this recommendation.

RELATIVE VALUE STUDY

As the Relative Value Study is in no way deemed a fee schedule, it is the recommendation of this Committee that wordings referring to a fee be eliminated from the publication. It further recommends adoption of the Relative Value Study as published, with the provision that any changes or discrepancies arising be referred for study and alteration as deemed necessary, to the Committee on Prepayment and Insurance Plans, they being instructed to utilize the services of the Fee Advisory Board, as set up by the Blue Shield Board.

I move the adoption of this recommendation.

Respectfully submitted,
A. K. Myrabo, M.D., Chr.
C. L. Swanson, M.D.
N. E. Wessman, M.D.

Reference Committee on Special Committees and Miscellaneous Business.

REPORT OF THE REFERENCE COMMITTEE ON CONSTITUTION AND BYLAWS

Corrections and additions to Article of Incorporation as published in the South Dakota Journal of Medicine and Pharmacy, Vol. XIII: 76-83, 1960 (Feb.)

Article IX

Cumulative voting and voting by proxy shall be permitted. Insert **not** after shall. I move the adoption of the Articles of Incorporation as published and amended. Collections and additions to Bylaws of the South Dakota State Medical Association as published in February, 1960.

Article III

Insert **Requirements** after Section 1.

Insert **Categories** after Section 2.

2a: Active members of this Association are all lawfully registered physicians residing or practicing in the State — change to Active members of this Association are all physicians lawfully registered in the State.

2c: Under heading Associate Members, after Armed Forces of the United States add or in the Veterans Administration.

2c: Last sentence change appointment to apportionment.

Article IV

Insert period after Section 1. Insert period after Section 2. Insert period after Section 3.

Section 2d: middle section — Code of Ethics of the American Medical Association, or for such other cause as is stated in the society's constitution and bylaws — After last and, add/or so sentence will read constitution and/or bylaws.

Section 3b:2 — correct spelling to derelictions.

Section 4b: — for him to attend on, change to attend **with.**

Section 7. — phrase select three (3) of its members to recommend, change to select three (3) of its members to be recommended.

Article V. Section 2. — last sentence, after Journal add comma or (2) with the approval.

Article VI. Section 2. — first sentence, one delegate for each 25 active, be changed to for each 20.

Last Line after Article VII add Section 1a:

Section 4. — after last sentence add, The call for special sessions shall be issued at least 10 days prior to the scheduled session.

Section 8. — first sentence, committee composes of any members, delete **any.**

Section 12. — first sentence, correct spelling of referendum.

Article VII.

Section 1. Designation and Terms, make Term plural — Terms.

Section 1b: last sentence change Article VIII to Article III, Section 2 a: and b:

Section 1c: Terms of Officers, 14th line, change re-elected to **elected.**

Section 3. — third line, add comma after dies and comma after is removed from office.

Section 4e: — add parenthesis around 1., 2., and 3.

e:(2) — middle of the subsection, noting on each his status in relation to his component society, change to **the** component society.

Article VIII.

Section 2a: — sixth line, correct spelling of powers.

Section 2b: — second sentence, involving the right, change to rights. In third sentence delete **or the general meeting,** after **before the House of Delegates.**

Section 2d: — second line, add **an** before office so sentence reads, any vacancy in an office. Delete last three words of last sentence **and has qualified.**

Section 2h — first line, change **adopt** to **submit.**

Section 3. — first line change **preceeding** to **of,** so it will read, day of and the day following.

Section 3. — At the end of the section add, The call for special meetings of the Council shall be issued at least five days prior to the scheduled meeting.

Article IX

After Section 1., add Revenue.

Article X

Section 1, fifth line, change to Section 8.

Section 3d:, fourth line, change **who to whom.**

Section 3d:, add parenthesis around subsection 1., 2., and 3.

Section 3d: (1), sixth line, change **member** to **members.**

Section 3d: (2), eighth line from the bottom, reading Association shall be cited before the Council for appropriate action — place period after action. Delete phrase "and in case of an Association member any advice from the Committe or further action of the impending or threatened suit will be withdrawn.

Section 4. — last sentence, change **suspected** to **suspended.**

I move the adoption of the Bylaws as published and amended.

I move the adoption of the Articles of Incorporation and Bylaws as published and amended, as a whole.

Rescpectfully submitted,
Reference Committee on
Constiution and Bylaws
W. A. Geib, M.D., Chr.
R. R. Giebink, M.D.
E. J. Perry, M.D.

Reference Committee on Constitution and Bylaws.

REPORT OF THE REFERENCE COMMITTEE ON COMMITTEE NOMINATIONS

The Nominating Committee presents the following slate of candidates:

1. President—C. Rodney Stoltz, M.D.
2. President-Elect—C. J. McDonald, M.D.
3. Vice-President—Magni Davidson, M.D.
4. Speaker of the House—R. H. Hayes, M.D.
5. Delegate to the AMA—A. A. Lampert, M.D.
6. Alternate Delegate to the AMA—A. P. Reding, M.D.
7. Councilor from 3rd District—M. C. Tank, M.D.
8. Councilor from 5th District—Paul Hohm, M.D.
9. Councilor from 6th District—P. P. Brogdon, M.D.

10. Councilor from 7th District—N. E. Wessman, M.D.
11. Councilor from 10th District—E. P. Sweet, M.D. (to fill unexpired term of Dr. Hayes)

Respectfully submitted,
Reference Committee on Nominations
J. W. Donahoe, M.D., Chr.
C. L. Vogele, M.D. (absent)
J. J. Stransky, M.D.
D. L. Scheller, M.D.
S. W. Fox, M.D.
T. Hohm, M.D.
J. H. Lloyd, Jr., M.D.
J. P. Steele, M.D.
W. E. Jones, M.D.
E. P. Sweet, M.D.
J. Lowe, M.D.
H. H. Brauer, M.D.

REPORTS OF OFFICERS AND COUNCILLORS AS ADOPTED BY THE HOUSE OF DELEGATES

REPORT OF THE PRESIDENT

Your President has visited all but two of the Districts that have invited him to their meetings. I started out for the Yankton District Meeting and had to turn back because of ice and snow. I was unable to make the Rosebud District Meeting because of a previous commitment.

I have enjoyed your meetings and wish to express my thanks for the courtesies extended to my wife and myself.

As your President I was invited to a Legislative Conference put on by the AMA in St. Louis in October. In November I took part in a conference on the Problems of Aging in Minneapolis and in November attended the North Central Conference in Minneapolis. I also attended the Clinical Session of the AMA in Dallas in December.

I have been able to attend all of the meetings of the Council and the House of Delegates and many of the Committee meetings of the various committees of the State Association.

Much work has been done in the past year on the Headquarters building, Relative Value Fee Schedule, and Blue Shield.

I wish to express my appreciation for the help given me by the Headquarters Staff and the entire membership of the Association.

You have honored me greatly by making me your president and I hope that you have not been disappointed in efforts.

R. A. Buchanan, M.D.
President

The Reference Committee recommends the acceptance of this report.

REPORT OF THE PRESIDENT-ELECT

The President Elect has attended all of the meetings of the Council and one Executive Committee meeting during the past year.

He has been Chairman of the Committee on Revision of Bylaws and has attended three meetings of this committee in that regard. He attended the North Central Conference and a regional conference of the AMA committee on insurance and prepayment plans in Minneapolis in November.

C. Rodney Stoltz, M.D.
President-Elect

The Reference Committee recommends the acceptance of this report.

SOUTH DAKOTA STATE MEDICAL ASSOCIATION
CONSOLIDATED STATEMENT OF OPERATIONS
YEAR ENDED APRIL 30, 1960

Receipts:		
States dues	$ 29,785.00	
Annual meeting	6,935.50	
Miscellaneous and reprints	1,191.09	
A.M.A. dues	9,880.00	
Blue Shield — Car reimbursement	690.00	
Interest earned	598.70	
Fall Hunters Medical Meeting	700.00	
Salary reimbursement	853.56	
Basic Science Board Investigation	75.00	
Group life insurance premiums from members	22,579.50	
Subscriptions	1,167.93	
Advertising	46,742.58	
Refunds	1,678.26	
Total receipts		$122,877.12
Disbursements:		
Salary—Executive Secretary	$ 9,600.00	
Salaries—others	10,430.00	
Depreciation	1,659.83	
Social Security tax expense	274.85	
Legal and Audit	625.00	
Rent	600.00	
Telephone and Telegraph	1,076.53	
Office and operating expense	35,548.64	
Dues and subscriptions	1,288.86	
Officers' travel and council meetings	2,542.24	
Executive Secretary — travel and expense	5,432.84	
Annual meeting expense	7,601.60	
Public Relations	955.64	
A.M.A. dues remitted	9,880.00	
Legislative expense	18.85	
Group life insurance premiums remitted	21,632.84	
Fall Hunters Medical Meeting	770.34	
Postage	1,715.00	
Ladies Auxiliary expense	320.54	
Taxes, licenses, insurance and refunds	692.89	
Donation—Benevolent Fund	400.00	
Donation—S.D.U. Medical School End. Fund	300.00	
Donation—University of S. D., Blood Bank	500.00	
Percentage of S. D. Journal of Medicine net profit in lieu of salaries	4,648.21	
Total disbursements		118,514,70
Net Gain to Net Worth—Exhibit A		**$ 4,362.42**

REPORT OF THE VICE PRESIDENT

The Vice President of the South Dakota State Medical Association attended all meetings of the Council and the Executive Committee during the past year. He also attended all meetings of the Corporate Body of Blue Shield, which were held during the past year. In addition to attending these meetings, the Vice President carried out all other duties assigned to this office.

C. J. McDonald, M.D.
Vice President

The Reference Committee recommends the acceptance of this report.

REPORT OF THE SECRETARY-TREASURER

As your officer, I have attended all Council meetings during the year. The duties of my office were carried out with our able competent Executive Secretary, John C. Foster, in person or via telephone and letters.

I have also served as your representative on the Interprofessicnal Health Council during the past year and attended a number of meetings throughout the year.

A. P. Reding, M.D.
Secretary-Treasurer

The Reference Committee recommends the acceptance of this report.

REPORT OF DELEGATE TO THE AMA

Your AMA Delegate and his alternate, Dr. A. P. Reding of Marion, attended both the annual session of the AMA held in Atlantic City in June, 1959, and the scientific session or interim session held in Dallas in December, 1959. Reports of the two AMA meetings mentioned have been detailed in the South Dakota State Medical Association's Journal for the months of July, 1959, and January, 1960. Any further report at this time would do no more than reiterate information already presented by the printed report.

Dr. Reding and I will continue to do our very best in representing the State of South Dakota on a national level. We both appreciate the cooperation offered to us by the State Association membership, by the Council, and by the State headquarters office.

Arthur A. Lampert, M.D.
AMA Delegate

The Reference Committee recommends the acceptance of this report.

REPORT OF THE ALTERNATE DELEGATE TO AMA

It was my privilege, as your Alternate Delegate, to attend the 108th Annual Meeting of the American Medical Association in Atlantic City, N. J. June 8-12, 1959 with your Delegate, Dr. A. A. Lampert. Our complete report of this meeting was published in the South Dakota Journal of Medicine and Pharmacy during the past year. The complete proceedings of the House of Delegates were published in the AMA Journal. The Reference Committee may obtain this report from our staff at the association office if it so desires.

At this meeting, four major controversial questions confronted the AMA Delegates:

1. Should the AMA openly admit that free choice is NOT always essential for good medical care — and thereby clear the way for medicine to have more actual say about the way closed-panel plans are run?
2. Should it abandon its long-standing opposition to compulsory social security for physicians?
3. Should it modify its position that Osteopathy is a cult, and allow individual state societies to decide under what circumstances M.D.'s should be permitted to teach in osteopathic schools and otherwise co-operate with D.O.s?
4. Should it approve a plan that would, in effect, double the time spent in internship by the future G.P., but leave him without the surgical training considered necessary by the American Academy of General Practice?

The action of the House of Delegates on these questions were published in the June 29th issue of the AMA News.

As your Alternate Delegate, I attended the Thirteenth Clinical Meeting of the AMA held in Dallas, Texas, December 1-4, 1959.

Freedom of choice of physicians, relations between physicians and hospitals, a scholarship program for deserving medical students, and relative value studies of medical services were among the major subjects which the House of Delegates took action. The report of these proceedings were published in the December 14th issue of the AMA News and also appeared in the South Dakota Journal of Medicine and Pharmacy.

May I express my appreciation to the South Dakota State Medical Association for allowing me to serve as your Alternate Delegate at these two meetings. I wish to thank Dr. A. A. Lampert, your Delegate, for his cooperation and help at these meetings.

A. P. Reding, M.D.
Alternate Delegate to AMA

The Reference Committee recommends the acceptance of this report.

REPORT OF SPEAKER OF THE HOUSE

The Speaker attended all Council meetings during the year. A letter was sent out to all members of the House of Delegates by the Speaker encouraging them to attend the annual meeting in May in Aberdeen, and also outlining their duties and privileges.

Magni Davidson, M.D.
Speaker of the House

The Reference Committee recommends the acceptance of this report.

REPORT OF THE EXECUTIVE SECRETARY

The past fiscal year was one in which the executive secretary spent a great deal of his time on planning and financing the new headquarters building and on the many intricate administrative problems of Blue Shield.

At the same time, usual activities of the Association were maintained.

Public Relations

The executive secretary continued his public speaking appearances to acquaint the public with the work of the Association, appearing 32 times before a total audience of 2600. Two television appearances were made covering 2/3 of the area of the State.

News releases were made available to all media as indicated with considerable publicity (or notoriety) resulting from several.

Two educational brochures were prepared and much information on legislation, medical education, and Association activities disseminated.

Headquarters Building

During the year much time was spent in travel contacting physicians to make loans to the building fund; in working with the architects; and in making general plans for the new building. At the time of this report approximately $57,000.00 had been collected or pledged. The building, in spite of bad winter weather has been enclosed and interior work is proceeding rapidly.

Travel

In the operation of the executive office, the executive secretary traveled approximately 41,000 miles. These trips include duties attached to Blue Shield and the Board of Medical Examiners, as well as the Association.

Liaison with Other Groups

The executive secretary represented the Association on the Board of the Sioux Falls Safety Council; the Board of the South Dakota Hospital and Home Association; Advisory Committee of the St. Mary's Hospital (Pierre), LPN School; Advisory Committee of the Washington High School (Sioux Falls) LPN Course; membership in the South Dakota Hospital Association; ex-officio membership in the South Dakota Joint Commission for Improvement of Patient Care; Advisory Committee to the AMA's Communications Division; Civil Defense; State Department of Health and others.

These liaison duties entailed attendance at 33 meetings during the year.

Blue Shield

Blue Shield continued its growth of the past three years. Currently there are 19,967 subscribers and a total premium income for the past twelve months of $278,783.00. As executive director of Blue Shield, it was necessary for the executive secretary to spend much time on problems of administration, attending Blue Shield meetings both national and local (15 of them) and preparing for the Federal Employees Health Plan.

Council, House, and Committees

The executive secretary of the Association has worked closely with the official bodies of the Association, various committees, and the District Societies. He attended 16 District meetings, 54 committee meetings, and 7 Council and House of Delegates meetings, a total of 77 meetings.

Other Medical Organizations

The executive secretary has attended four meetings of the Board of Directors of the Medical Society Executives Conference. He also attended the AMA meeting in Atlantic City, the North Central Conference in Minneapolis, National Medical Public Relations Conference, and several regional meetings on aging.

The Journal

The executive secretary functions as the business manager of the Journal and is responsible for its publication and financing.

Mrs. Patricia Saunders handles the duties of assistant editor, doing the layout work for each edition, dealing with the printer, authors, and advertising agencies.

Medicare

The executive secretary is the administrator for "Medicare" in the State. The program, which was curtailed drastically in October of 1958 was partially restored on January 1, 1960. Payments were made to South Dakota physicians totaling $48,568.31. This compares with $170,000.00 during the first full year of operation. Administrative costs rose from 2.5% to 6.6% due to the reduced volume.

Board of Medical Examiners

As executive secretary of the Board of Medical Examiners, he attended two Board meetings and has maintained the records, funds, and correspondence for that body.

Miscellaneous

Total funds handled by the executive office during the fiscal year in all programs were $446,000.00.

The executive secretary feels that the past year has been an outstanding year in the history of the Medical Association. The decision to build a headquarters office has been a major step in emphasizing the Association's growing strength and prestige.

The executive office is just as successful as the people who staff it and the support given it by Association members. Much credit is due the efforts of Miss Phyllis Sundstrom, office manager, who is the major force in keeping the office a well-functioning organization. She has been with us eight years, first on VA work, later as secretary, and since 1957 in her present position.

Mrs. Patty Butler does the secretarial work and has been with the Association 5½ years.

Mrs. Patricia Saunders mentioned earlier for her work on the Journal has been on that job 3 years.

The Blue Shield staff is newer, but fitting well into the organization. R. C. Erickson is assistant to the executive director, a position he has held since he was employed 2 years ago.

Jonna Andrew and Doris Tatge are the claims personnel for Blue Shield and have been associated with us for about one year.

To all of them, my personal appreciation. My appreciation, too, to the many physicians who have made the job just a little bit smoother.

John C. Foster
Executive Secretary

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COUNCIL

There were three regular Council meetings held during the year. R. H. Hayes, M.D. was elected chairman at the first meeting. Dr. E. J. Perry of Redfield, became Councilor of the Aberdeen District; and Dr. N. E. Wessman of Sioux Falls, became Councilor for the Seventh District.

Dr. Alonzo Peeke of Volga was selected as General Practitioner of the Year.

A joint committee on aging was set up during the year with other interested agencies. The Relative Value Fee Schedule was also acted on and referred to the Committee on Prepayment and Insurance Plans to render a final completed Relative Value Study to the Council on or before May 1, 1960.

The Council took action on a resolution concerning fee schedules and their use in South Dakota. The Council recorded its opposition to profit-making organizations attempting to utilize fee schedules made up for non-profit agencies for whom concessions may be made, and that such profit-making organizations be informed of this resolution as the situation may arise.

R. H. Hayes, M.D.
Chairman of the Council

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COUNCILOR FIRST DISTRICT

Membership: 45

Officers:

President—W. E. Gorder, M.D.
Vice-President—Robert Bormes, M.D.
Secretary-Treasurer—A. C. Vogele, M.D.

Directors:

J. A. Eckrich, M.D. and E. J. Perry, M.D.

Censors:

P. G. Bunker, M.D., M. E. Sanders, M.D. and J. C. Rodine, M.D.

Delegates:

E. A. Rudolph, M.D., R. K. Rank, M.D., A. C. Vogele, M.D., G. H. Steele, M.D.

The Aberdeen District Medical Society holds monthly dinner meetings on the first Wednesday of each month from September to June. The following is a list of speakers:

September:

Dr. K. H. Sponsel of Minneapolis spoke on "Hip and Ankle Injuries."

October:

Dr. R. A. Buchanan, Huron, S. D., President of the S. D. State Medical Association made his annual visitation.

November:

Annual Hunting Meeting. Guests were physicians from Minneapolis and the Mayo Clinic.

December:

Dr. George W. Rowney of Sioux City, Iowa, spoke on "Endometriosis in Private Practice." The nominating committee presented their recommendations for officers for 1960.

January:

Dr. C. B. McVay of Yankton, S. D. lectured and showed movies on "Hernia Repair."

February:

Dr. E. W. Humphrey of Minneapolis spoke on "Chemo Therapy of Cancer."

March:

Dr. George Smith, Sioux Falls, spoke on "The Stroke Syndrome."

Drs. A. C., and C. L. Vogele conducted a Cardiac Arrest demonstration on dogs at St. Luke's Hospital.

Committees were appointed for the arrangements of the State Medical Meeting to be held on Aberdeen.

April:

Dr. Maurice Lev spoke on "Basic Concepts in Congenital Heart Disease."

May:

Final arrangements for State Meeting were completed.

E. J. Perry, M.D.
Councilor, First District

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COUNCILOR SECOND DISTRICT

Membership: 24

Officers:

President—T. J. Wrage, Jr., M.D.
Vice-President—R. Auskaps, M.D.
Secretary-Treasurer—G. E. Tracy, M.D.
Censors:
C. Ryan, M.D.; D. Fedt, M.D.; C. Clark, M.D.
Delegates:
M. C. Rousseau, M.D.; S. J. Walters, M.D.
Alternates:
H. R. Brown, M.D.; A. Willen, M.D.

The Watertown District Medical Society holds monthly dinner meetings on the first Tuesday of every month from September to June. In addition to the regular business meetings, the following programs were presented during the year:

June 1959:

Entire meeting devoted to discussion of relative value fee schedule.

October 1959:

Ducks Unlimited film.

November 1959:

AMA presentation on the Forand Bill.

December 1959:

Election of officers.

January 1960:

"Medical Legislation currently before the House of Representatives," Congressman George McGovern. Members of the Society and their wives attended the meeting. Guests included Dr. and Mrs. Buchanan, hospital administrators, hospital board members, president of the local dental society, and the county and national Democratic committeemen.

April 1960:

"Congenital heart disease" Dr. Lev, Chicago.

This Society notes with regret the death of one of its members, Ross M. Kilgard, M.D.

John J. Stransky, M.D.
Councilor, Second District

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COUNCILOR THIRD DISTRICT

The first meeting since the last report was on Thursday, June the 11th, 1959 at the Madison Country Club. After an afternoon of golf there was a scientific program by Drs. McVay and Sattler regarding the medical and surgical aspects of bleeding peptic ulcer. A lengthy question and answer period followed their very excellent presentation. The regular business meeting was called to order by President Roberts and a resolution prepared by Dr. Wold with respect to instructions given the councilors by the State President and registering a protest and objection was read before the Society and approved. Copies of the resolution had been sent to the State Secretary and the State President of the Society as instructed.

The chairman of the essay contest committee reported that both district winners had won honorable mention in the national contest and certificates of award were received and transmitted to Orann Anderson and Dale Holter. A communication from the A.M.A. requesting newspaper clippings of editorials on the high cost of medical care and medical hospital care for the aged be sent to Chicago, was read before the society. The necessity of instructing the delegates to State Convention on the attitude of the Society in regard to the adoption of the relative values fee schedule brought out a lively discussion. A resolution that the delegates from the Third District be instructed to move at the House of Delegates meeting that the subject be discussed and then tabled for further information and future action of the individual societies was accepted.

The next meeting of the Third District Medical Society was at the Brookings Country Club, and after an afternoon of golf Dr. Buchanan, our State President and John Foster, the State Secretary, commented on the building program for our new building in Sioux Falls. John Foster, the State Secretary then talked on the Forand Bill and the methods best used to combat its passage. A letter was read from C. L. Eskleson, Director of Vocational Rehabilitation in Pierre, before the Society. It stated that the name of Dr. D. S. Baughman of Madison would be presented at the next meeting for the Governors Committee, commending him for citation from the President's Committee. Dr. Tank reported that at the State Meeting the principle of the relative value fee schedule had been accepted and that the actual schedule was being referred to the individual district societies for acceptance or revision. It was moved by Dr. Tank and seconded by Dr. Patt that Dr. D. S. Baughman be nominated for the District for practitioner of the year.

The Third meeting of the Third District Medical Society was held on October 18th, 1959, in Brookings, South Dakota. This meeting was attended by numerous out-of-town hunter guests. All the physician-hunters were introduced and there was a brief panel discussion at that time. At the business meeting Dr. Patt moved, and it was seconded by Dr. Turner, that the matter of a suitable memorial for Dr. D. S. Baughman be tabled until the next meeting in order to obtain the advice and opinion of a more universal representation of the Society members. This was carried.

The fourth meeting of the Third District Medical Society was held on December 10th, 1959, at Flandreau, S. D. A scientific sound movie of a panel discussion on acute abdominal problems was shown. Following the movie, the regular business meeting was called to order by Dr. Roberts. At the business meeting it was moved by Dr. Wold and seconded by Dr. Friefeld that for each deceased member, beginning with Dr. Baughman, a $50.00 memorial donation be channelled through the Third District Auxiliary and the A.M.E.F. for the undesignated use of the South Dakota State Medical School. This was carried. The election of officers for the year 1960 was the next order of business. The new president elected was Dr. C. R. Turner of Brookings, the vice president was Dr. D. D. Hillan of Madison; secretary-treasurer was Dr. C. M. Kershner of Brookings. Delegates were Dr. Dean C. Austin of Brookings and Dr. J. A. Anderson of Madison. The alternates are Dr. H. R. Wold and Dr. J. R. Muggly of Madison, and Dr. Donald Scheller of Arlington. Censors were Dr. S. Friefeld of Brookings, chairman, Dr. C. R. Roberts of Brookings and Dr. H. R. Wold of Madison.

Our final meeting until the present time, of the Third District Medical Society, was held on February 11, 1960, in Madison, S. D. After a fine dinner, Mr. Walter Petrosky was introduced as the speaker for the evening. He spoke on the Jenkins-Keogh bill and other measures for setting up tax-deductible funds for retirement plans for physicians and employees. A question and answer period followed. It was then moved by Dr. Watson and seconded by Dr. Wold that the treasurer draw a check for $100.00 payable to the Auxiliary, to be transferred to the A.M.E.F. in memory of Dr. Baughman and Dr. Grow. This carried.

The Maricopa County Medical Society letter regarding a Drive for Dollars for Dooley was read before the Society. It was moved by Dr. Muggly and seconded by Dr. Otey that the secretary mail a letter to all members of the Society, enclosing copies of the above letter, giving each a voluntary opportunity to contribute to the fund with which the Society can participate in the drive. John Foster, the executive secretary, discussed various measures being taken to effectively oppose the passage of the Forand Bill. It was moved by Dr. Watson and seconded by Dr. Wold, that the Society formulate and adopt a resolution at this date, in opposition to the Forand Bill and that the copies of said resolution be forwarded to the South Dakota Senators and Representatives in Congress and to the Honorable Wilbur Mills, Chairman of the House Ways and Means Committee. This was carried.

It was moved by Dr. Watson and seconded by Dr. Belatti that the president appoint a committee in Brookings, Madison, Flandreau, and Arlington, to take active steps to induce various groups and individuals to express opposition to the Forand Bill in such a way as to be effective.

The Third District has had its typically controversial year, but not quite as feverish as our previous one.

M. C. Tank, M.D.
Councilor, Third District

The Reference Committee recommends the acceptance of this report, but feels that the resolution rejecting instructions of the State President should have been part of the report.

REPORT OF THE COUNCILOR FOURTH DISTRICT

Membership in the Fourth District Society for the year consisted of 24 paid up members, one honorary member, two military members, and one new member who is as yet to receive his South Dakota license. One member, Dr. Paul Dzintars of Faith, S. D., has transferred to the Black Hills District for the sake of convenience. Dr. Rudolph Orgusaar, formerly of Ondia, is now a member of the Huron District Society.

Meetings were held during the year, with discussions of the Forand Bill and Blue Shield medical coverage changes.

Election of officers was held in the January meeting, with the following elected: M. M. Morrissey, M.D., President; B. O. Lindbloom, M.D., Vice President; J. T. Cowan, M.D., Secretary-Treasurer; I. R. Salladay, M.D., Censor; Drs. S. W. Fox and C. L. Swanson, Delegates; Drs. E. H. Collins and J. T. Cowan, Alternate Delegates.

New members of the District consists of K. M. Illig, an opthalmologist; Hubert Wethmann, a radiologist; and Robert Stewart, in practice at Highmore, S. D. A new physician is reported to have entered practice in Presho, K. Sprosts.

All meetings of the Council have been attended by the Councilor of the Fourth District.

L. C. Askwig, M.D.
Councilor, Fourth District

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COUNCILOR FIFTH DISTRICT

The Huron District Medical Society held four meetings during the year 1959-1960. The first meeting was held on October 13, 1959, in Wessington Springs, S. D. After a conducted tour of Memorial Hospital, dinner was served at the Rainbow Cafe Blue Room followed by a business meeting. Dr. Robert Buchanan gave a report on the legislative meeting sponsored by the A.M.A. held at St. Louis. Two films on "Nerve Gas" and "Field Gas" were shown. Special note was made by Dr. Gryte concerning diabetic week and the necessity of full cooperation of all the doctors in reporting the number of urine tests taken during diabetic week to him.

On October 17 and 18, the Huron District again sponsored the local Pheasant Seminar. The program on Saturday, October 17, was as follows:

9:30	Registration, St. John's Hospital Auditorium
9:30-10:00	Benton Holm, M.D., Moline, Illinois, "Upper Gastrointestinal Hemorrhage"
10:00-10:30	W. R. J. Kilpatrick, M.D. Opthalmologist, Huron, S. D. "Hunting Accidents of the Eyes"
10:30-11:00	Richard Wunschel, M.D., Anestheiologist, Moline, Illinois "The Etiology and Cause of Cardiac Arrest."
12:00	Hunting

The program on October 18 was as follows:

9:30	Coffee and Doughnuts
9:30-10:00	Robert Schilling, Assoc. Professor of Medicine, University of Wisconsin, Madison, Wisc. "Diagnostic Test in Anemia"
10:00-10:30	Robert Van Demark, M.D., Orthopedist, Sioux Falls, S. D. "Soft Tissue Injuries"
10:30-11:00	Leon Bullock, M.D., Radiologist, St. Johns Hospital, Huron S. D. "Unilateral Exophthalmus"
12:00	Hunting
7:30 P.M.	Social Hour — Smorgasbord and Discussion

It was felt the Seminar was quite well attended. The speakers presented very interesting papers leading to good discussions following their presentations.

The annual meeting was held at the Plains in Huron on December 10, 1959. It was voted on and passed that the Society purchase a projector to be used and made available for any medical meetings in the district. Dr. Robert Buchanan gave a report on his various travels in his capacity as State President. Discussion was also held in regard to Blue Shield, Blue Cross and the care of indigents on county level.

The February 18, 1960, meeting was held at the Marvin Hughitt Hotel in Huron. Mr. James Hyldahl, District Manager of the local Social Security office was guest speaker. He discussed the various phases of the Social Security set up and went into detail regarding the disability provisions of the Social Security Act, which was then followed by a question and answer period. After a frank and detailed discussion on the Forand Bill took place, it was decided the President of the Huron District Society should send a letter to Congress stating that the Huron District Medical Society was opposed to the Forand Bill.

A check from the District Medical Society was sent to Tom Dooley, M.D., c/o Medico, Box 2, New York, as a contribution for "Dollars for Dooley" campaign.

The following officers were elected for the coming year:

President—Clifford Gryte, M.D.
Vice President—Yale Charbonneau, M.D.

Secretary-Treasurer—E. C. Hanisch, M.D.
Paul Hohm, M.D.
Councilor, Fifth District

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COUNCILOR SIXTH DISTRICT

The Sixth District has showed increased activity this year. There have been four regular meetings with one special scientific meeting. At all regular meetings there was an excellent scientific program.

The members of the District were quite active in contacting members of Congress regarding the Forand Bill.

The following officers were elected to serve for the following year:

President—O. J. Mabee, M.D.; Vice President—A. Portella, M.D.; Secretary-Treasurer—James Vose, M.D.

P. P. Brogdon, M.D.
Councilor, Sixth District

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COUNCILOR SEVENTH DISTRICT

The Seventh District Medical Society has 101 active members, 5 honorary members, 6 members on leave of absence, and 13 members from the Veterans Administration Hospital.

During the past fiscal year eight meetings were held, during which time scientific programs were given by prominent physicians in their respective fields.

One meeting was held in conjunction with the local bar association to discuss medical legal affairs and business of the society is discussed by the board of directors and it's recommendations are given to the society for approval by vote.

Officers are as follows:
President—H. Shreves, M.D.
Vice President—Paul Reagan, M.D.
Secretary—Dorence Ensberg, M.D.
Treasurer—Arnold Myrabo, M.D.

N. E. Wessman, M.D.
Councilor, Seventh District

The Reference Committee felt that the report of the 7th District was rather brief considering that they had eight meetings during the year.

REPORT OF THE COUNCILOR EIGHTH DISTRICT

June 3, 1959: Held at the Black Steer in Yankton. There was a discussion of the State Society building program and the District went on record as favoring the building program. The relative value schedule was discussed and the principal was accepted. Blue Shield was discussed and the delegate was instructed to request that Blue Shield Insurance pay 75% of normal internal medicine fees with a floor beneath the amount paid of $3.00 per day as minimum.

November 4, 1959: Held at the State Hospital. Two applications were brought before the meeting, those of Dr. Donald Cline and Dr. Glenn Kleinsasser. They were accepted.

December 9, 1959: Held at the Black Steer. Motion was made and carried that the Yankton District loan the S.D.S.M.A. building fund $500.00. The Forand Bill was discussed and the importance of keeping our Congress members informed of our wishes concerning the Forand Bill. The new officers elected were:

President, W. F. Stanage, M.D.; Vice-president, H. C. Andre, M.D.; Secretary, K. A. Dregseth, M.D.; and Treasurer, E. Moore, M.D.

T. H. Sattler, M.D.
Councilor, Eighth District

The Reference Committee recommends acceptance of this report.

REPORT OF THE COUNCILOR NINTH DISTRICT

During the past year the Black Hills Medical Society has continued to be interested and active in promoting good public relations, has been interested in proposed legislation particularly relating to Forand Bill and care of the aged.

The meeting February 10, 1959 was taken up largely by presentation of papers before local physicians on medical topics.

March 26, 1959, a special meeting was held at which time a rather detailed discussion of the relative value fee schedule was held and it was moved to continue study of this matter. Also matters of the proposed new building for the South Dakota State Medical Association were discussed and approved.

The regular meeting, April 9, 1959, presented a panel discussion on hospital infections. The panel was moderated by Dr. Eugene Ittces and included J. M. Severens, Ph.D., Professor of Microbiology, Creighton University, Dr. D. E. Hultkrans of the Regional Office of the VA in Minneapolis, Dr. Benedict R. Walske, Director of the Department of Surgery, Creighton University and Mrs. Margaret Salm, Executive Housekeeper of the VA Center at Wood, Wisconsin and Miss Ava A. Maness, Chief, Nursing Service, VA Center, Hot Springs.

At Fort Meade Veterans Hospital on June 4, 1959, Dr. Steinhilber presented the topic "Aggression with Legal Intent."

The annual Black Hills District Society Fish Fry was held at City Park, Spearfish, on August 20, 1959. As usual this was enjoyed immensely by all present. At this meeting, Dr. Buchanan, President of the State Medical Association made his visitation, and spoke on the building to be erected in Sioux Falls. The scientific program was presented by Dr. L. M. Randall, Chief of Ob-Gyn of the Mayo Clinic, discussing "Experiences with Methods and Management of Carcinoma of the Breast."

Dr. Mordant E. Peck, Cardiovascular surgeon at Denver discussed "Occlusive Vascular Disease and its Surgical Treatment" at the October 13, meeting at Sanator.

Mr. John C. Foster, Executive Secretary of the State Medical Association attended this meeting and reported on the building fund and discussed efforts to defeat the Forand legislation.

At the December 10 meeting, Dr. Earl B. Scott, Professor of Anatomy at the University of South Dakota presented a scientific paper on "Hystopathology of Experimental Amino-acid Deficiency." Following his discussion a film strip concerning the Forand Bill legislation was presented and discussed by Dr. Jones and Dr. Lampert.

During the year the Society continued the three nursing scholarships; one to St. John's Hospital in Rapid City and two to the State College at Brookings.

Officers for the following year were elected. President — Wayne A. Geib, M.D.; Vice President — Charles E. Roper, M.D.; Secretary-Treasurer — John T. Elston, M.D.; Councilor — J. D. Bailey, M.D.

During the year 1959 we regret the loss of R. E. Jernstrom, M.D. and C. A. Soe, M.D., previously a

member of the Black Hills District Medical Society but living in Shell Beach, California, at the time of his death.

J. D. Bailey, M.D.
Councilor, Ninth District

The Reference Committee recommends acceptance of this report.

REPORT OF THE COUNCILOR TENTH DISTRICT

Four scientific meetings were held during the year.

The February meeting was held at the Rosebud Indian Agency with the cooperation and attendance of the host U.S.P.H.S. physicians and the Rosebud pharmacists. Executive Secretary John Foster and Pharmaceutical Association president Willis Hodson were also present as guests of honor. The Forand Bill was discussed and the Rosebud Pharmacy Society resolved that the Forand Bill was not a help to older people and would be a dangerous program for Social Security. The local Medical Society confirmed this opinion. Dr. Edwin Sweet of Burke was re-elected president; Dr. P. E. Lakstigala of White River was re-elected secretary-treasurer.

Plans for the forthcoming year include joint meetings with the pharmacists and dentists of our district.

R. H. Hayes, M.D.
Councilor, Tenth District

The Reference Committee recommends acceptance of this report.

REPORT OF THE COUNCILOR TWELFTH DISTRICT

The 12th (Whetstone Valley) District Medical Society holds quarterly meetings. The first 1959 meeting was held at Webster, S. D., March 29, 1959, and the old officers were re-elected: W. C. Brinkman, M.D., president; D. A. Gregory, M.D., secretary-treasurer; H. H. Brauer, M.D., delegate; P. D. Peabody, M.D., alternate. Dr. Karlins read the paper of the evening, "Pinning of Metacarpal Fractures." The new Day County Hospital was inspected.

The second meeting was held at Sisseton, July 22, 1959, and the new old people's home was inspected.

The third meeting was held at the Country Club in Milbank on October 14, 1959. Dr. D. L. Ensberg of Sioux Falls was speaker of the evening. John Foster also spoke briefly.

The fourth meeting will be held at Webster on April 20, 1960, at which time the delegates and alternates will be elected.

There are seventeen men eligible for membership in the 12th District.

E. A. Johnson, M.D.
Councilor, Twelfth District

The Reference Committee recommends acceptance of this report.

REPORTS OF COMMITTEES AS ADOPTED BY THE HOUSE OF DELEGATES

REPORT OF THE COMMITTEE ON SCIENTIFIC WORK

The Committee on Scientific Work submits the following scientific meeting for 1960:

Film—The Early Detection and Medical Management of Ulcerative Colitis — Plastic Surgical Problems of General Interest, Part I, by John K. Grotting, M.D., Minneapolis

The Role of the Family Doctor in Modern Vascular Surgery by Claude Hitchcock, M.D., Minneapolis

Presentation by John Moe, M.D., University of Minnesota

Plastic Surgical Problems of General Interest, Part II, Lyle V. Kragh, M.D., Minneapolis

The Internist Looks at the Problem of Esophagogastric Varices, William T. Gibbs, M.D., Washington, D. C.

Respiratory Emergencies in the Newborn and Early Childhood by Kenneth C. Johnson, M.D., Chicago

Inhalation Therapy in Respiratory Disease by Albert H. Andrews, Jr., M.D., Chicago

Panel Discussion —Respiratory Disease — by Paul G. Bunker, M.D., Aberdeen, S. D.; Kenneth C. Johnson, M.D., Chicago; Albert H. Andrews, Jr., M.D., Chicago; Robert Nelson, M.D., Sioux Falls

Film — Current Trends in the Clinical Management of Diabetes

Voluntary Health Insurance — A Report to the Practicing Physician by Mr. Kenneth Barrows, Des Moines

Anatomical Approach to the Problem of Stress Incontinence by Kermit Krantz, M.D., University of Kansas Medical Center

The Diagnosis of Anorexia Nervosa by John Berkman, M.D., Mayo Clinic

Cinefluroorography — Motion Picture Fluroroscopy by Joseph Jorgens, M.D., VA Hospital, Minneapolis

Depression: Its Recognition and Treatment by the General Practitioner by H. Angus Bowes, M.D. and James E. Gilbert, M.D., Aberdeen

Symposium on Preceptorship

The History of the Preceptorship Programs by Walter L. Hard, Ph.D., Dean, Medical School, University of South Dakota

Criteria for Evaluation of Preceptorship by Warren L. Jones, M.D., Associate Professor of Medicine, University of South Dakota

Clinical Instruction of the Medical Student by T. H. Sattler, M.D., Professor of Medicine, University of South Dakota

Respectfully Submitted
THE COMMITTEE ON SCIENTIFIC WORK
R. A. Buchanan, M.D., Chr.
C. J. McDonald, M.D.
A. P. Reding, M.D.
C. R. Stoltz, M.D.

The Reference Committee recommends acceptance of this report.

REPORT OF THE COMMITTEE ON LEGISLATION

This committee held one formal meeting in Huron, S. D. on January 17, 1960. On many other occasions conferences were held by members of the committee and our executive secretary on an informal basis. Other work of the committee was accomplished by telephone and correspondence. This committee has concerned itself with the items listed below and has transmitted to the Council, at its January meeting, recommendations concerning some of these items.

1. Proposed state legislation to discontinue the premarital examination and blood testing.
2. Improvement in the state coroners law.
3. Proposed changes in state laws relating to mental health.
4. Methods of providing for supplemental death certificates.
5. Stimulation of activity by physicians relative to congressional consideration of HR-4700. The committee recommended that the Council and state officers encourage each district society to establish a special committee to direct local activities in regard to this proposed legislation.
6. The desirability and necessity for each mem-

ber of our association to take part in political activity by (A) making substantial contribution to the political party of his choice and (B) actively supporting candidates for political office who in his opinion have the proper philosophy toward government. The committee recommended to the Council that a letter be sent to each physician in this regard and this has been done.

Proposed state legislation will be a matter of concern to our Association during the latter part of this year. This committee has scheduled a meeting for September to begin consideration of such material. A member of the committee, Dr. Tank, was delegated to represent the committee at a meeting of the Mental Health Association in February for the purpose of considering proposed changes in the mental health laws. Your committee will welcome suggestions from the membership of our association with respect to legislation to be considered at the forthcoming legislative session in 1961.

On the national level two items of vital concern to the medical profession are being considered. These are proposed legislation to provide tax deferment for the self employed and HR-4700, the Forand Bill. Each physician in our organization is encouraged to make his views known in writing on these two subjects to our representatives in Congress.

Your committee has been cooperating closely with the American Medical Association and other groups with regard to proposed national and state legislation which relates to the public health and which is of concern to physicians and our association.

COMMITTEE ON LEGISLATION
H. Russell Brown, M.D., Chr.
M. C. Tank, M.D.
Paul Bunker, M.D.
H. R. Lewis, M.D.
C. L. Swanson, M.D.
E. T. Ruud, M.D.

The Reference Committee recommends acceptance of this report.

REPORT OF THE COMMITTEE ON MEDICAL SCHOOL AFFAIRS, MEDICAL EDUCATION AND HOSPITALS

The Medical School Affairs Committee met January 16, 1960 at Huron, S. D. Dr. Hard gave the following report on activities at the Medical School:

1. Bids will be opened later this month for the construction and equipping of the research wing on the present medical building. A set of plans are included that one may visualize the addition to the building. It is to be recalled that this is being financed by equal appropriations from both the State and Federal Government in the amount of $228,000.00. The wing will be attached to the west end of the present building. It is expected to relieve a very critical shortage of space for three of the departments in the medical school.

2. Contributions from physicians and the laity for support of medical school activities are considerably above the level of the past year. This is revealed in the following figures: The American Medical Education Foundation, donations through only eleven months:

73 in-state physicians	$3,574.50
23 out-of-state physicians	532.50
Districts of Medical Auxiliary	329.00
TOTAL	$4,436.00
Estimate for December	2,000.00
Estimated TOTAL	$6,436.00
Contributions for 1958	3,942.33
Increase over 1958	$2,493.67

In addition to the above a total of $3,553.50 was contributed to several loan funds, scholarship funds, memorials, etc.

The above does not include contributions to the Medical School Endowment Fund. This accounting is kept by Mr. Foster and a report should be forthcoming from his office.

3. Your Dean attended an executive session of the Association of American Medical Colleges meeting in Chicago, to discuss those items apt to be discussed in Congress this year directly affecting medical education. They may be summarized as follows.

1. Presently Congress limits the overhead allotment on research grants to 15% of the total grant. Accurate accounting reveals that the actual cost to the institution to operate a research grant is in the neighborhood of 25% to as much as 40%. Our operation is decidedly minor, running from $25,000 to $40,000 per year for research grants but these institutions where entire departments may be staffed from research grants are obviously feeling the pinch. It is likely that a request will be made of Congress to increase overhead allotments to as much as 25%.

2. Two special committees, one by the President and one by Congress, have emphasized the demanding need in the country for more physicians particularly by 1970 to meet the population increase. The Bayne-Jones Report emphasized the need for several thousand more physicians to be graduated by 1970 and recommended the establishment of something like 15 to 25 new medical schools to accomplish this result. Considering the cost involved, and limited resources by the states concerned, it seems quite clear that this is a recommendation which will be difficult to implement. Likewise, a straw vote suggested that not more than half of the medical schools in the country today could increase their enrollments without new facilities to a total of not more than 200 medical students in the aggregate. With these factors in mind it seems likely that Congress will be petitioned to appropriate money for the erection of medical educational institutions, probably on a matching basis just like the research construction facility referred to above for our institution. Were such a measure to go through, I would be hopeful that our University Administration would agree to a request for a small state appropriation to match the Federal for the construction of a medical auditorium on the east end of our present building. Those of you who have attended functions at the medical school recognize that we do not have a single room capable of holding a meeting adequate to seat our combined medical classes and faculty, not to mention outside guests.

3. It is also likely that direct research grants will be made to institutions rather than to individuals to obviate certain shortcomings presently existent in the present system of awarding grants.

4. Recognizing the shortage not only in quantity but quality of medical students, and the direct impression that many bona fide students are being led away into other areas of science by virtue of high graduate and scholarship stipends, perhaps some measure of financial aid to medical students will be developed. This probably has a low priority. I would be hopeful it took the form of loan funds rather than outright scholarships unless some particular strings were to be attached to the outright grant.

4. Attention is called to a special program which is being arranged for all the preceptors of our medical school teaching program to be held in

conjunction with the annual meeting of the State Medical Association in Aberdeen in May. Through the fine cooperation of Mr. Foster's office, a specified time, Tuesday afternoon, has been set aside for this meeting. Personal invitations will go out to all preceptors but it is to be emphasized that any physician interested is certainly free to attend. This might be identified as a "get acquainted session" although it is surprising that this program which has been going on now for some 12 years should have to be so labelled. We have the distinct feeling that a unified meeting in which the particular objectives of the program could be outlined, and the benefits, and, or, detriments of the program could be aired. Dr. Warren Jones who directs our Clerkship Program in Sioux Falls during the second semester is preparing some general observations which he has made upon reviewing case histories submitted by our students. We are hopeful of a true interchange of ideas which may aid us in evaluating this program.

5. The annual medical school dinner-dance program is scheduled for March 26. We can assure any visitor wonderful entertainment at the banquet as we have one of the midwest's great humorists on schedule.

6. The Medical school cooperated with regional medical organizations in sponsoring programs for physicians and students during this past year. One such program was the Sioux Valley Medical Society in Sioux City back in February and your Dean has already met with their Program Committee to make certain observations and suggestions for their meeting next February. The Internal Medicine Society of South Dakota met at Vermillion in early October and I think had an extremely successful meeting judging from the attendance and what seemed to be an excellent quality in the program.

7. I would recommend to the Medical School Affairs Committee that they in turn petition the Council for the following action.

1. Continued financial support for the awarding of two medical scholarships in the amount of $100.00 each to a freshman and sophomore medical student to be awarded in March, 1960.
2. An appropriation of $50.00 to defray in part the expenses of the South Dakota student delegate to the annual meeting of the Student American Medical Association which usually is held in May.

Respectfully submitted,
Walter L. Hard, PhD., Dean

Following his report, architect's drawings of the proposed research wing were distributed and explained to the committee members.

Dr. Hard suggested that the Medical School Affairs Committee recommend to the Council that the Association continue financial support for the awarding of two medical scholarships in the amount of $100 each to a freshman and sophomore student to be awarded in March, 1960; and that the Association appropriate $50.00 to defray part of the expenses of the South Dakota student delegate to the annual meeting of the Student American Medical Association which usually is held in May. Dr. Jahraus moved to accept the recommendation. Dr. McVay seconded the motion and it was carried.

Dr. Hard reported that there are now 19 full time faculty members at the School of Medicine. He also indicated that there are 1.8 applicants now for each opening in medical schools throughout the country. This is a national average. 60% of the students at the University Medical School are in-state students. It is estimated that 4,000 more medical school graduates per year will be needed to take care of increased population needs in future years.

Respectfully submitted
COMMITTEE ON MEDICAL SCHOOL AFFAIRS, MEDICAL EDUCATION, AND HOSPITALS
C. B. McVay, M.D., Chr.
R. C. Jahraus, M.D.
Ronald Price, M.D.
Warren Jones, M.D.
W. H. Saxton, M.D.
F. R. Williams, M.D.

The Reference Committee recommends acceptance of this report.

REPORT OF THE COMMITTEE ON MEDICAL DEFENSE

The amendment to the By-laws, Section 18, Chapter 7, for a new Medical Defense Committee was adopted by the House of Delegates at its annual meeting in Rapid City, June 20-23, 1959. However, due to the fact that the organization of this new Medical Defense Committee has not been completed at the time of this report, your old committee wishes to submit a report up to April 1, 1960.

The committee met on February 10, 1960, to consider a case presented by the counsel for the plaintiff. The Medical Defense Committee rendered an opinion on this case, based on the information submitted.

On March 31, 1960, the committee met to consider material presented by the counsel for the defendant. Based on the lack of information submitted, the committee could give no opinion on this case. The result of the first opinion and its effect on the case has not been received up to the date of this report.

It is gratifying to your Medical Defense Committee, that the medical and legal professions of our state are now cognizant that we have a Medical Defense Committee **actually** in operation and not in word only.

Respectfully submitted,
COMMITTEE ON MEDICAL DEFENSE
A. P. Reding, M.D., Chr.
L. J. Pankow, M.D.
D. R. Mabee, M.D.

The Reference Committee recommends acceptance of this report.

REPORT OF THE COMMITTEE ON NECROLOGY

The Committee reports the following deceased physicians in the State during the past year:

R. E. Jernstrom, M.D., Rapid City, passed away May 9, 1959.

Eugene Flynn, M.D., Pierre, passed away May 9, 1959.

R. Reagan, M.D., Sioux Falls, passed away May 11, 1959.

H. L. Saylor, Sr., M.D., passed away May 8, 1959.

P. R. Pinard, M.D., Sioux Falls, passed away May 23, 1959.

G. T. Jordan, M.D., Vermillion, passed away in May, 1959.

J. A. Jacotel, M.D., Milbank, passed away in June, 1959.

J. C. Ohlmacher, M.D., Vermillion, passed away in August, 1959.

D. S. Baughman, M.D., Madison, passed away September 14, 1959.

E. F. Grove, M.D., Arlington, passed away in October, 1959.

R. M. Kilgard, M.D., Watertown, passed away in September, 1959.

Andrew Hoyne, M.D., Salem, passed away in October, 1959.

Paul Billingsley, M.D., Sioux Falls, passed away in December, 1959.

A. F. Grove, M.D., Dell Rapids, passed away in April, 1960.

C. C. Magdsick, M.D., Sioux Falls, passed away in April, 1960.
F. E. Bouza, M.D., White River, passed away in April, 1960.
C. A. Soe, M.D., Shell Beach, Calif.

Respectfully submitted,
THE COMMITTEE ON NECROLOGY
J. C. Murphy, M.D., Chr.
E. J. Batt, M.D.
L. L. Parke, M.D.

The Reference Committee recommends acceptance of this report.

REPORT OF THE COMMITTEE ON CANCER

Members of the South Dakota Medical Society function as professional members of the Board of Directors of the South Dakota Division of the American Cancer Society. Yearly, they devote considerable effort and have great interest in the activities of this organization.

The annual meeting of the Cancer Society was held in Huron on September 18, 1959. An excellent talk on "Carcinoma of the Larynx" was presented by Dr. Paul G. Bunker of Aberdeen. Other physicians attending and functioning as members of the board were: E. G. Huppler, M.D.; G. F. McIntosh, M.D.; Robert Rank, M.D.; D. H. Breit, M.D.; M. Tank, M.D.; W. Geib, M.D.; and P. V. McCarthy, M.D.

This board was instrumental in the promotion of a grant permitting teaching nurses of South Dakota to participate in advanced training in cancer nursing at New York University and New York Memorial Hospitals. This program has been in effect for a number of years and has returned to South Dakota a great deal of valuable nursing knowledge.

Notable activities of the Cancer Society during 1959: The establishment of one additional cancer registry for St. Anne's and Memorial Hospitals in Watertown. (This makes a total of five now functioning in the state). Continued support of the tumor clinic at Sacred Heart Hospital in Yankton. A generous grant was made to the University of South Dakota Medical School to continue various experiments in cancer research. A grant was made for work at the Mayo Clinic in cyto-screening by a qualified laboratory technician. To promote the aim of the Society — Education in Cancer — the Society sends to the physicians in South Dakota the Bulletin CA and the South Dakota Edition of the Cancer Bulletin. It has furnished the medical libraries of eight hospitals and the medical library of the University of South Dakota subscriptions to Cancer Current Literature Index, published by the Excerpta Medica Foundation for Medical Libraries. The Society also maintains a considerable number of films on various phases of cancer. These films are available upon request. Although the aim of the Cancer Society is not to finance cancer therapy, it does have a small fund which has been made available to a number of patients during the past year. Inquiries concerning this loan fund should be made to the State Headquarters in Watertown.

Respectfully submitted,
THE COMMITTEE ON CANCER
P. V. McCarthy, M.D., Chr.
E. G. Huppler, M.D.
G. F. McIntosh, M.D.

The Reference Committee recommends acceptance of this report.

REPORT OF THE COMMITTEE ON TUBERCULOSIS

We are pleased to report that the death rate from Tuberculosis is continuing to decline. In some places there is an increased incidence. It is still too early to determine whether this will result of an increased death rate or whether the use of the newer drugs, combined with surgery, will result in adequate control.

During this past summer "The Arden House Conference on Tuberculosis" was held to suggest ways for a final drive on Tuberculosis. The U. S. Public Health Service is holding conferences in various parts of the U. S. to consider ways of implementing this drive. The one for this area is to be held in Kansas City on March 31st. It is hoped that recommendations will be available for incorporation as a part of this report before the State Medical Meeting.

Respectfully submitted,
THE COMMITTEE ON TUBERCULOSIS
W. L. Meyer, M.D., Chr.
B. T. Lenz, M.D.
R. J. Bareis, M.D.

The Reference Committee recommends acceptance of this report.

REPORT OF THE COMMITTEE ON PUBLIC HEALTH

No assignments were given this committee during the past year.

Since I am a member of the Governor's Public Health Advisory Committee, several matters of immediate importance to the Medical Profession were discussed and handled in this committee by direct communication from the State Public Health Officer to the various physicians throughout the state.

Respectfully submitted,
THE COMMITTEE ON PUBLIC HEALTH
N. E. Wessman, M.D., Chr.
T. E. Mead, M.D.
J. T. Cowan, M.D.

The Reference Committee recommends acceptance of this report.

REPORT OF THE COMMITTEE ON MATERNAL AND CHILD WELFARE

During the year 1959-1960 the Maternal and Child Welfare Committee has been co-operating with the State Department of Health in setting up a central agency in Pierre through which future Maternal Mortality Studies can he handled. This has become reasonable since passage of the legislation at the last session of the legislature which protects such files from subpoena for court action.

Respectfully submitted,
COMMITTEE ON MATERNAL AND CHILD WELFARE
Brooks Ranney, M.D., Chr.
L. W. Tobin, M.D.
W. A. Anderson, M.D.

The Reference Committee recommends acceptance of this report.

REPORT OF THE EXECUTIVE COMMITTEE

The Executive Committee of the South Dakota State Medical Association consists of the President, Vice President, President Elect, Secretary-Treasurer, Speaker of the House, and Chairman of the Council. This committee is designated as the Building Committee for the new headquarters building in Sioux Falls.

On July 26, 1959, the committee met in Sioux Falls with Mr. Evan Lucas, the architect, to go over plans for the building and to sign a contract with the architect.

A meeting was held on September 20, at which time the program for the annual meeting was discussed.

A telephone conference call was held on October 8, in regard to a bid on the headquarters building made by the Carlson Construction Company of Sioux Falls. It was decided that the bid should be

accepted if, on the advice of other architects, it was considered a fair and reasonable bid.

On April 24, 1960, the Executive Committe met in Sioux Falls to consider the Personnel and Office Function Survey, the Veterans Administration Home Town Care Program, a recommendation from the pathologists of the State, and a request from the Mental Health Association for financing committee work.

The Committee is pleased with the loans made to date for our building fund and we are pleased with the progress that has been made on our Headquarters building.

Respectfully submitted,
THE EXECUTIVE COMMITTEE
R. A. Buchanan, M.D., Chr.
C. J. McDonald, M.D.
Magni Davidson, M.D.
A. P. Reding, M.D.
C. R. Stoltz, M.D.
R. H. Hayes, M.D.

The Reference Committee recommends acceptance of this report.

REPORT OF THE GRIEVANCE COMMITTEE

Mr. President, esteemed officers, and honorable members of the House of Delegates, this Committee submits its report of activities for the past year, up to and including March 31, 1960.

There has been no physical meeting of the Committee, for the reason that all matters of grievance presenting themselves have been handled by telephone and correspondence in what we believe to have been adequate.

Twelve matters of grievance have been filed with us, since the date of last years annual meeting. Essentially, they can be classified as follows: Over-charge by doctor, 5; Patient resentment, 2; Doctor or insurance company, 2; Advertising, 2; Doctor vs. doctor, 1; although some cases have an overlapping into a second category. A resume of these cases follows. The number 59-60 refers to the Association year, followed by the case number for the year.

♯59-60-1. This was a complaint by a surgeon against Western Surety Company for persistently cutting down his fee of $150.00 to $125.00 for hernial repairs. Investigation verified the complaint by other surgeons. In one instance an appeal was made to the Industrial Commissioner who decided that $125.00 was adequate. No further action was taken.

♯59-60-2. This complaint was directed against a surgical team who developed skill in a certain surgical procedure, and allowed an enthusiastic news reporter to write up a successful case, using names, records, and x-rays for a feature article. The complaining doctor felt that such publicity should be cleared thru the local society before release. The matter was considered and referred to the local society, where it is belived it has been resolved.

♯59-60-3. This complaint arose over billing for a consultation fee. Patient paid the doctor in full and later was billed $25.00 by the consultant. He felt that his doctor should have paid this. The belligerent tone of the complaint was such that the Committee felt no great sympathy. The consultant was advised to follow his own judgment about collection.

♯59-60-4. This complaint carried a legal question which probably only a jury trial will answer. A farmer suffered a heart attack while doing his chores. The wife called a physician who had not cared for the family previously. The physician refused to answer the call, but told the wife to get the patient into his office. The wife then called a doctor in another town, who responded at once. The patient died before the doctor's arrival, but he told the wife he could have saved the life, had he been there twenty minutes sooner. On his own volition, a neighbor got quite steamed up about the deal and sent in a grievance. The problem to the Committee was whether or not a relationship of patient-physician existed because of the advice to bring the patient to the doctor's office. It was submitted to Mr. Karl Goldsmith for an opinion. In the meantime concilliatory letters were written to the neighbor. About the same time that Mr. Goldsmith advised that a jury might have to decide, the complaining neighbor wrote that he regretted having brought the grievance, and that he wished to drop the complaint. This we gladly did.

♯59-60-5. Several doctors sought the help of the Committee against the Personnel Director of a local industry, who in his zeal to keep down insurance claims, often told employees that they had no valid claim, and refused to furnish insurance forms for the employees. This matter was taken to the Insurance Carrier, our contention being not that every claim was valid, but that the decision should rest in the Insurance Company, and not with a Personnel Director. The former practice has now stopped.

♯59-60-6. Two self styled wealthy residents of Ohio came to South Dakota to shoot pheasants. One blew out and strangulated an inguinal hernia and was taken to a nearby town for care. He inquired as to the cost of surgery and was told it would be $350.00. The companion assured the surgeon that the patient was good, and that if the patient did not pay it, he would; just to give him the best. The patient was a diabetic, experienced a post-operative dishesion of tissues, and suffered a coronary. He was under the doctor's care a long time, but recovered. He was later on billed for $1500.00, and promptly filed a grievance. Investigation by credit bureaus disclosed that both men were without means other than small pensions and had no financial background. The Committee urged the surgeon to collect what he could get, and advised the patient that he should pay as much as possible, since the fee was not excessive considering the nature of his trouble. It is not known how much, if any, of the charge was collected.

♯59-60-7. A young G.P. left his location to specialize, and placed all his bills with an agency for collection. One family took umbrage and wrote to him that the fee was excessive and that unless greatly reduced, a grievance would be filed. The doctor wrote to us immediately. He was told to sit tight until a grievance was actually filed. No more was heard.

♯59-60-8. A woman became dissatisfied with her G.P. physician and on her own volition consulted a specialist. The history disclosed that she had been treating previously. The specialist examined her but refused to discuss the findings with her, stating that he would make a report to her regular doctor. She filed a grievance. After a courteously phrased letter of explanation, she seemed appeased. No more has been heard.

♯59-60-9. This grievance involved an alleged overcharge for a confinement. The fee did seem to be larger than an uncomplicated delivery would be, but the attending physician had died, and could not defend his charges. The clinic manager was advised to offer a reduction equal to the cost of collection. This was done, and the patient was so advised. At last report, this bill had not yet been paid.

♯59-60-10. A patient files a grievance against a surgeon for overcharges. She is completely satisfied with the work, likes the surgeon, and wishes she could pay the bill; but she has been advised by the State Farm Mutual Insurance Company, who appears to be liable for her medical care,

necessitated by an automobile injury, that the fee is greater than they will pay, and that she should file a grievance. A resume of patient care and itemized charges disclosed high, but not exhorbitant fees, good and long term care, and a very satisfactory result. The patient was advised to pay.

#59-60-11. A group of associated doctors erected a new clinic building. The contractor, wishing to show off his work, asked permission to stage an "Open House" function as soon as they were in occupancy. The permission was granted. The contractor advertized by various available media, inviting on a "come all" basis. Certain unaffiliated doctors of the community objected on the basis of unethical advertising. The AMA holds that it is permissable to hold an "Open House" in these circumstances, provided invitation is limited to patients and personal friends or related groups, but that display advertising inviting one and all is a bid for new patients and as such, is unethical. However, in this community it has long been the practice to have advertising professional cards in newspapers, telephone and other directories, and sundry publications. Obviously a situation of explosive potential existed. The offending group was advised to hold a special District meeting, apologize to the offended doctors, and all of them discontinue the unethical use of professional cards in newspapers and directories. This was done, and altho there is still some residual dissatisfaction apparent, it is believed conditions will assume an amicable status at an early date.

#59-60-12. The caption for this grievance might well be "Be careful of what you say; be more careful of what you write; but be extremely careful of what you sign."

A farmer injured an eye which became infected. He consulted a specialist who treated him in the office and advised hospital care, which was refused. The patient also was not cooperative in following directions for the care of his eye in his home. After a protracted time of indifferent self care, he informed the doctor he as going to consult an eye specialist in another city. This was not opposed by doctor No. 1, who subsequently billed the patient for his services to date. Numerous promises to pay were not honored by patient, and ultimately doctor No. 1 turned the account over to a local collection agency. On one of his visits to doctor No. 2, patient showed the letter from the collector, and expressed displeasure that he was supposed to pay for services which had not benefited him, but did conceal that he had not cooperated or followed the orders of doctor No. 1. Doctor No. 2 felt that extremely poor care and advice had been given by doctor No. 1 and took it upon himself to write a signed letter to the collector advising him to return the account to doctor No. 1, or he, doctor No. 2, would turn the matter over to the Grievance Committee. The collector turned the letter over to doctor No. 1, who filed a grievance against doctor No. 2.

It is assured this Committee by doctor No. 2, that he did not know all the facts, and that he heartily regrets having persued his course of action. However the seed has been sown and all one can hope for is a crop failure. The patient has assurance from doctor No. 2 that cause for malpractice against doctor No. 1 is evident. Doctor No. 1 has evidence of slander and defamation of professional character. At best there is very poor rapport between the two doctors. It is hoped that this extremely dangerous situation will clear up, but the incident is too recent to make predicitions or draw conclusions.

This concludes our report of Grievances.

The Committee wishes to express our regret of the passing during the year of one our members, D. S. Baughman, M.D. of Madison. Dr. Baughman was a capable, judicious, and active member for years.

The Chairman adds that as a result of advertising overenthusiasm which has occasionally appeared in our State, he wrote an article which will have appeared in our South Dakota Journal by the time this report is published. He hopes all of you will read it.

Respectfully submitted,
THE GRIEVANCE COMMITTEE
L. J. Pankow, M.D., Chr.
A. W. Spiry, M.D.
A. P. Peeke, M.D.
M. M. Morrissey, M.D.
W. H. Saxton, M.D.

The Reference Committee recommends acceptance of this report.

REPORT OF THE COMMITTEE ON MENTAL HEALTH

The committee has worked very hard and has held many meetings studying the South Dakota laws dealing with the mentally ill and mentally retarded. The chairman attended the meeting of the Council on Mental Health of the AMA, held in Chicago in November, 1959 where mental health chairmen and mental health authorities from the fifty states met with the Council on Mental Health and the Law Division of the AMA to study revision of state laws dealing with the mentally ill. The mental health laws of many other states were studied as well as "A Draft Act Governing Hospitalization of the Mentally Ill" compiled by the Federal Security Agency, Public Health Service.

The present law is a hodge-podge of disjointed statutes containing stigmatizing terms which seem to cast the mentally ill patient in the role of a criminal.

A complete revision of the laws dealing with the mentally ill has been drafted and incorporated with the laws dealing with the mentally retarded. The following changes have been made:

The term "commitment" has been changed to "hospitalization."

The term "inmate" has been changed to "patient."

The term "complaint" has been changed to "petition."

The term "parole" has been changed to "provisional discharge."

The detention of a mentally ill person (not charged with crime) in jail has been abandoned.

The statute which permits and actually directs the Superintendent of Yankton State Hospital to consider sterilization of patients before discharge has been abandoned.

Provisions for hospitalization by court order in the psychiatric ward of a general hospital have been added.

Provision for speedy emergency hospitalization has been made.

Provisions for placing certain types of patients in a certified nursing home by court order have been added. These would generally be senile patients who would not be able to benefit by treatment in Yankton State Hospital and who would be amenable to the custodial care provided by nursing homes which are certified for the receipt of this type of patient.

The revision, above referred to, has been entitled "in South Dakota Mental Health Act, Part I." Two committee meetings have been attended by representatives of the State Bar Association, the County Judges Association, the State Department of Health, the State Board of Charities and Corrections, and the legislative committees of the South Dakota Medical Association and the South Dakota Mental Health Association. After recom-

mendations from this group have been reviewed, a final draft of the proposed Mental Health Act, Part I, will be submitted to the legislative committee of the South Dakota State Medical Association and to the Council for their action.

The committee expects that a perfected draft of the South Dakota Mental Health Act, Part I, will be ready for introduction into the next legislature.

The Committee is also planning Part II of the South Dakota Mental Health Act for later consideration by the Council and possible consideration by a future legislature. Part II of the Act may call for a constitutional amendment setting up a mental health authority in the form of a State Department of Mental Health or a Division of Mental Health in the State Department of Health. The proposed mental health authority would supplant the State Board of Charities and Corrections in supervision of the Yankton State Hospital, Redfield State Hospital and School and the State Training School and would also assume certain specified public health functions in the field of mental health.

The chairman wishes to extend deep appreciation to Dr. Roy C. Knowles, the hardest working member of the committee and to Dr. Cecil Baker who worked diligently on the study until he moved from the state in January, 1960. Appreciation is also expressed to A. C. Miller, President, South Dakota Bar Association, for appointing a bar committee to work with our committee on this study. Attorney Lloyd Peterson, Watertown, chairman of the bar committee has been most cooperative and has given many hours of his time to the study as have other members of his committee: Judge Francis Lawless, Huron; Judge Harold Benedict, Colman; and Attorney Tom Luby, Huron. Dr. Lawrence Behan and Dr. James Gilbert have been tremendous help. Tom Schultz representing the State Department of Health, R. S. Wallace and Orval Westby, representing the State Board of Charities and Corrections and Ernest Reich, President of the South Dakota Nursing Home Association, have been most helpful.

Respectfully submitted,
THE COMMITTEE ON MENTAL HEALTH
E. S. Watson, M.D., Chr.
Roy C. Knowles, M.D.
Richard Leander, M.D.
Angus Bowes, M.D.

The Reference Committee recommends acceptance of this report.

REPORT OF THE BENEVOLENT FUND COMMITTEE

The Benevolent Fund was originally established by the Auxiliary with annual allotments from the State Association. This was started during the time of economic depression with the dire need of some physicians. Better times soon followed, but with marked wisdom the Fund has been continued as a bulwark against disasters. After creating an appreciable amount of $5,000.00 it was the opinion of the Society that the monies be used under certain conditions for student loans, bearing interest at term rates.

The money now at hand in this fund, as well as an itemization of loans is as follows: (March 8, 1960)

Government bonds	$3,000.00
Loans, Students	5,500.00
Cash	1,692.12
	$10,192.12

The Benevolent Fund Committee took action in March of 1959 to assist a physician in financial difficulties. The Committee moved to temporarily assist this individual in the amount of $50.00 per month for one year, with the recommendation of the District Society and approval of the Council.

At the close of the year, 1959, he needed further help and the Committee extended payment through June 1st only, because in the opinion of the Committee, this man can get care by other means.

The physician is in the Aberdeen District and the Committee acknowledges with heartfelt thanks the work Dr. Paul V. McCarthy has done, not only to help this man, but to aid this Committee.

This has been a very sincere action and we, the Committee, are in accord with this decision. We trust that the House of Delegates will give its approval to this decision.

The Committee strongly feels that this Fund is very worthwhile in all its intent and purpose — and the use it is now being put to is most creditable. We strongly urge the Association to continue its annual allotments and never rescind its permanency.

Respectfully submitted for the fiscal year 1959-1960.

THE BENEVOLENT FUND COMMITTEE
W. E. Donahoe, M.D., Chr.
J. C. Hagin, M.D.
F. C. Totten, M.D.

The Reference Committee recommends acceptance of this report.

REPORT OF THE PUBLICATIONS COMMITTEE

During the past fiscal year the South Dakota Journal of Medicine published 1521 pages, an increase of 161 pages over the year before and 377 over the year previous to that. Editorial, scientific, and new material, a total of 637, an increase of 47¾ pages from the year before. The advertising showed an increase of an additional 113¼ pages to a total of 884 pages.

Respectfully submitted,
THE PUBLICATIONS COMMITTEE
R. E. Van Demark, M.D., Chr.
G. S. Paulson, M.D.
Robert Rank, M.D.

The Reference Committee recommends acceptance of this report.

REPORT OF THE COMMITTEE ON DIABETES

No meetings were held during the year.

Clifford Gryte, M.D., Chr.
M. E. Sanders, M.D.
T. J. Billion, Jr., M.D.

The Committee feels that the Committee on Diabetes is unnecessary and can be handled on a local level.

REPORT OF THE COMMITTEE ON RHEUMATIC FEVER AND HEART DISEASE

We are pleased to report that since the beginning of this program in November of 1958, there have been 219 patients placed on this program. Of this number 21 have discontinued use of these facilities. One has deceased so it would actually mean that only 20 have discontinued either for voluntary reasons or non-cooperation. This leaves a total of 197 still participating. Over the state it is pretty well generally represented, however, there seems to be a greater incidence of this disease east of the Missouri River, but this may be based upon the fact of larger population likewise. All in all, we have been most happy with this program and at the present time the South Dakota Heart Association is planning to make a full report of this in a statistical manner and possibly use it as a booth or scientific exhibit at one of the state medical meetings.

Respectfully submitted,
COMMITTEE ON RHEUMATIC FEVER AND HEART DISEASE
John W. Argabrite, M.D., Chr.
G. Q. Olsson, M.D.
H. W. Farrell, M.D.

The Reference Committee recommends acceptance of this report.

REPORT OF RADIO BROADCAST AND TELECAST COMMITTEE

The Committee's main function is to assure the wide-spread and continuous use of AMA radio transcriptions by the various radio stations throughout the State. This objective has been accomplished completely in some areas and only partially in others.

Respectfully submitted,
THE RADIO BROADCAST AND TELECAST COMMITTEE
John J. Stransky, M.D., Chr.
R. A. Boyce, M.D.
F. D. Leigh, M.D.
Robert Olson, M.D.
J. C. Rodine, M.D.
S. B. Simon, M.D.
J. P. Steele, M.D.

The Reference Committee recommends acceptance of this report.

REPORT OF THE AMEF COMMITTEE

The AMEF Committee has again conducted their solicitation by letters and again wishes to express its appreciation for the invaluable assistance of the office of the State Association and Dr. Walter L. Hard in formulating the program.

We are happy to report that nationally the foundation reports an increase in 1959 over 1958 of 17.2% and a two year increase of contributions of 36.7%. In South Dakota, 1959 contributors numbered 201 against 166 in 1958 and 1959 collections totaled $7,603.50 against $6,615.00 in 1958. However, this is still less than was contributed in 1957 when 228 responded with $8,647.00.

Again the committee would like to urge every doctor to support this program in 1960, and we want to express our appreciation for their support during the past year.

Respectfully submitted,
THE AMEF COMMITTEE
S. F. Sherrill, M.D., Chr.
J. C. Hagin, M.D.
O. J. Mabee, M.D.
H. L. Saylor, Jr., M.D.
F. C. Kohlmeyer, M.D.

The Reference Committee recommends acceptance of this report, reiterating the need of our continued support.

REPORT OF THE COMMITTEE ON MEDICAL LICENSURE

The Board of Medical Examiners met twice during the past year. The summer meeting was held in Rapid City and ten physicians were licensed by examination.

The winter meeting was held in Sioux Falls and nine physicians wrote the examinations.

Dr. G. Robert Bartron became the new member of the Board and was elected secretary-treasurer.

Thirty one physicians were licensed by reciprocity during the year. Two D.P. physicians were granted full licensure upon completion of the four year temporary licensure requirement.

Dr. Bartron and Mr. John C. Foster attended the Federation of State Medical Boards meeting in Chicago in February of this year.

Respectfully submitted,
THE COMMITTEE ON MEDICAL LICENSURE
Magni Davidson, M.D., Chr.
D. L. Kegaries, M.D.
C. E. Kemper, M.D.

The Reference Committee recommends acceptance of this report.

REPORT OF THE COMMITTEE ON VETERANS AND MILITARY AFFAIRS

There were no activities by this Committee during the past year. The only business connected with the Veterans Administration was negotiation for a new contract, and this was referred by the Council to the Executive Committee for action.

In a recent news letter from the American Medical Association, recommendation was made in the House of Delegates that there be a single negotiating committee between the state association and all government programs paying for private care. The establishment of such a committee is herewith recommended.

Respectfully submitted,
THE COMMITTEE ON VETERANS AND MILITARY AFFAIRS
L. C. Askwig, M.D., Chr.
M. R. Gelber, M.D.
G. H. Steele, M.D.
T. J. Billion, M.D.

The Reference Committee recommends acceptance of this report.

REPORT OF THE SPAFFORD MEMORIAL FUND

The Spafford Memorial Fund is given each year to the student who, in the opinion of the Committee, has made the most satisfactory progress in the study of Latin, preferably Vergil.

This award was established by the South Dakota State Medical Association and other friends of Dr. Spafford in recognition of his many years of service as a member of the State Board of Regents of Education and especially of his interest in the study of the ancient classics.

Respectfully submitted,
SPAFFORD MEMORIAL FUND COMMITTEE
T. E. Eyres, M.D., Chr.

The Reference Committee recommends acceptance of this report.

REPORT OF THE PREPAYMENT & INSURANCE PLANS COMMITTEE

The Council assigned the task of revising and completing the Relative Value Fee Schedule to the Prepayment & Insurance Committee.

Many long hours and much effort have been devoted to this project over the past four-year period by previous Prepayment and Insurance Committees, in addition to the time devoted by the present Prepayment & Insurance Committee. The first schedule was compiled by a survey of average charges of all physicians in South Dakota prior to the establishment of Blue Shield and Medicare in 1956. Since that time several meetings have been held in which members of the various specialties, general practice and the Fee Advisory Committee helped in establishing this fee schedule. This was not prepared with any idea of attempting to set fees but to try to determine a relative value between the various fees in the various branches of medicine as a basic guide. Suggestions were taken from many individuals and were correlated insofar as possible into a fair and equitable relative value schedule for average uncomplicated cases and procedures. Your Committee on Prepayment and Insurance went over the entire schedule again on February 24, 1960, and made only a few minor revisions in an effort to make the schedule more realistic and equitable from a relative value standpoint. There are undoubtedly discrepancies here and there which

can and should be adjusted as further experience indicates.

This schedule will be submitted to the Council for its evaluation and will be submitted to the House of Delegates if accepted by the Council.

Respectfully submitted,
THE COMMITTEE ON PREPAYMENT AND INSURANCE PLANS
D. H. Breit, M.D., Chr.
H. Russell Brown, M.D.
Paul Hohm, M.D.
E. A. Johnson, M.D.
J. J. Feehan, M.D.
J. P. Steele, M.D.
Roscoe Dean, M.D.

The Reference Committee recommends acceptance of this report, recommending commendation of members for its tremendous effort particularly in relation to the Relative Value Study.

REPORT OF THE NURSING TRAINING COMMITTEE

The Schools of Nursing having students in rural nursing for the past year are: Sacred Heart, Yankton; Presentation, Aberdeen; Presentation, Sioux Falls; Sioux Valley, Sioux Falls; Augustana College, Sioux Falls.

The hospitals receiving students are: Community Bailey, Chamberlain; Memorial, Gettysburg; Memorial, Miller; St. Michael's, Tyndall; Indian Hospital, Rosebud.

A total of 88 students had rural nursing. The State Advisory Committee had one meeting on June 3, 1959 and the present elected chairman is Mr. Beckwith. A conference on rural nursing is being conducted on April 12, 1960.

The coordinators wish to thank the Medical Association and other State groups for their support and the help given to the program.

Respectfully submitted,
NURSING TRAINING COMMITTEE
J. A. Muggly, M.D., Chr.
C. L. Vogele, M.D.
D. J. Buchanan, M.D.

The Reference Committee recommends acceptance of this report.

REPORT OF THE COMMITTEE ON WORKMEN'S COMPENSATION

No regular meeting was held, but telephone conference was substituted. Also, Mr. John J. Simpson, Deputy Industrial Commissioner was consulted.

We know many changes in the Workmen's Compensation program are indicated. The question is: which of these changes are within the scope of this Medical Association? Of these, which goals can be accomplished and which should be tackled first? Most of us would like to see unlimited Medical-Hospital coverage. I am not sure that at present this would be best. In any case, it is extremely unlikely such coverage is obtainable now. Most likely, it will come in gradual steps.

South Dakota is not a pro-labor state. The employer looks closely at any change that would increase his costs. We know they are mostly sympathetic with the employee and have his best interests at heart. But, they are extremely cautious and have to be shown that each change is worth the cost. The compensation carriers are opposed to change. Just why, I don't know. Perhaps they are afraid the employers will drop Workmen's Compensation if it becomes too expensive.

In spite of these factors, the committee thinks the following changes are reasonable, necessary and conceivable. In case of a critical accident, such as a head injury, paraplegia or chest injury, special nurses are imperative and a separate limit should be established for this care aside from the amount allowed for medical care. Possibly $300.00 or $500.00 should be allowed. A man who loses an arm or leg certainly is entitled to a prosthetic appliance so he can be rehabilitated. Usually now, by the time he needs an appliance the hospital coverage is used up. For this reason, a special allowance for braces or prosthetic appliances should be established. This should be around $300.00. Possibly ambulance service should be included in with special nurses since it is usually necessary in the more critical cases.

So much for additional coverage. Another part of the Workmen's Compensation Law which needs revision is that section dealing with awards of a certain number of days compensation for a specified permanent partial disability such as 160 weeks for loss of a leg. There is no specific allowance or award for a back disability. This is a very distressing situation and makes it possible for a back case to "fritter" along without being settled while the employee stays on temporary disability and wastes a lot of time when he could be working if a settlement were made. Just how this would be best handled we don't know, but some provision will have to be made. South Dakota awards for loss of an arm or a leg seem low in comparison with other states and these should be changed. Perhaps that is not in our committee's scope, but I believe it is.

There are other points in the law that should be clarified. There have been instances of the Insurance Company settling with an employee and leaving an outstanding doctor or hospital bill or both. This should be remedied.

Another point of dispute is when an employee is returned to a partial disability basis and told he can do light work, say 50%, the employee tries to find light work, and is unable to find work he can do. The insurance carrier immediately cuts his compensation to $17.50 per week. The doctor is put on a spot and tends to avoid releasing a patient for limited work until he is able to do full work. Which means a loss of time and prevents gradually rehabilitating the patient back to his regular work. If he cannot find limited work, he should be entitled to full disability benefits.

The last recommendations of this committee is that the State Industrial Commissioner have printed a small pamphlet outlining the Workmen's Compensation laws in brief. This could outline the employers duties and rights and the employees rights and benefits and what the doctor is supposed to do. If a special law is necessary to publish such a pamphlet, it should be introduced. Many other states have such a pamphlet printed and it can be made available to doctors, employers and employees free. The Industrial Commissioner, the insurance carriers and the doctors could work together on such a project.

This concludes the report of the Workmen's Compensation Committee.

Respectfully submitted,
WORKMEN'S COMPENSATION COMMITTEE
R. R. Giebink, M.D., Chr.
H. J. Bartron, M.D.
H. R. Lewis, M.D.

The Reference Committee recommends acceptance of this report, urging continued efforts to equalize problems ever arising with the various groups implicated, allowing equitable compensation of the attending physician.

REPORT OF THE CLINICAL PATHOLOGY COMMITTEE

The Clinical Pathology Committee has tentatively arranged for a Work Shop Program for Medical Technologists to be given at the University of South Dakota School of Medicine at Vermillion. In the fall of 1960 Dr. R. Rank of Aber-

deen, S. D., will give a workshop on Hemogloblin. In the fall of 1961 Dr. L. Carefoot of Huron, S. D., and Dr. A. Venables of Watertown, S. D., are planning a workshop on Instrumentation and Glucose Determination. The previous workshops arranged jointly by the South Dakota Society of Pathologists, the University of South Dakota School of Medicine, and the South Dakota State Medical Association have been well received and we believe represent a worthwhile post graduate educational program for the benefit of South Dakota Medical Technologists.

During the coming year the Clinical Pathology Committee would like to embark upon a Standards Program and voluntary participation would be solicited from Medical Technologists in Hospitals, Clinics and Office Laboratories. This program would include biochemistry, blood banking, hematology, bacteriology, serology and other branches of Clinical Pathology. Unknown specimens would be obtained and mailed to laboratories which desire to participate in the voluntary Standards Program. After the results of the tests were returned from the various laboratories the correct answers would be mailed to the participating laboratories and in many instances a critique on methodology would be included. There are many determinations which would adapt themselves to such a Standards Program, and include: ABO grouping, Rh typing, sera for Rh antibodies, sera and cells to demonstrate incompatible cross matches; smears for diptheria, tuberculosis, gonorrhea; infectious mononucleosis and L E cells; serum for serological tests for syphilis, specimens for the determination of hemoglobin, glucose, chlorides and urea. The Committee realizes that this is a rather ambitious program, however the Pathologists in the state are strongly behind such a Standards Program and we can expect their complete cooperation. It is likely that the University of South Dakota School of Medicine and Dean Hard would cooperate and make this another joint program for the post graduate education of Medical Technologists.

Respectfully submitted,
CLINICAL PATHOLOGY COMMITTEE
W. A. Geib, M.D., Chr.
R. L. Carefoot, M.D.
A. K. Myrabo, M.D.

The Reference Committee recommends acceptance of this report and recommends approval by the House of Delegates of the proposed workshops of standards program.

REPORT OF THE COMMITTEE ON CIVIL DEFENSE

There were no activities by this Committee during the past year, and there were no matters referred to it for action.

Respectfully submitted,
COMMITTEE ON CIVIL DEFENSE
L. C. Askwig, M.D., Chr.
D. C. Cameron, M.D.
G. J. Bloemendaal, M.D.

REPORT OF THE COMMITTEE ON IMPROVEMENT OF PATIENT CARE

Two meetings of the South Dakota Joint Commission for the Improvement of the Care of the Patient were held during the past year, both as luncheon meetings at the Marvin Hughitt Hotel in Huron.

Attendance at the meetings was as follows: SDNA, 100% attendance; SDMA 41.7% attendance; SDHA 66.6% attendance; SDLN, 33.3% attendance; participating groups, 33.3% attendance and twelve guests.

Officers elected for the coming year are: Miss Edna Davidson, Chairman, and Dr. M. E. Sanders, Vice Chairman. The office of Secretary is for a two year period and was filled last year.

Two very timely programs were presented. At the September meeting, the highlights of several state and national conventions were given: Miss Inez Hinsvark reported on the SDLN convention; Dr. E. B. Morrison reported on the AHA convention; Mrs. Olga Ulberg reported on the NAPNES and the SDLPNA conventions and Dr. J. Muggly reported on the AMA convention. Care of the Aged was the subject of a panel at the March meeting; participants were Sister M. Rosaria, Sister M. Bonaventure, Dr. Clark F. Johnson and Mr. Thomas B. Schultz.

In September, a telegram was sent to Mr. Frank Kraft, then chairman of the Board of Charities and Corrections, expressing "concern over the situation at the Yankton State Hospital and an early decision for safeguarding the medical treatment and nursing care and strengthening the educational opportunities at the Yankton State Hospital."

Minor revisions of the By-laws of our Commission have been made over a period of years; these By-laws, as revised, were formally accepted by the group.

A report on the research project "Patterns of Nursing in South Dakota," which is being sponsored by the South Dakota League for Nursing, was given at the March meeting.

Respectfully submitted,
COMMITTEE ON IMPROVEMENT OF PATIENT CARE
D. J. Buchanan, M.D., Chr.
R. Delaney, M.D.
M. Sanders, M.D.
C. L. Vogele, M.D.
C. F. Gryte, M.D.
J. A. Muggly, M.D.

The Reference Committee recommends acceptance of this report.

REPORT OF THE COMMITTEE ON SCHOOL HEALTH

Your Committee on School Health has been corresponding in an attempt to further the resolution presented last year.

The various forms for recording examinations done by the private physicians have been considered. It was recommended to the Council that the 1959 revised American Academy of Pediatrics physical form seems best adaptable for general use. This could be used for school examinations and when filled out completely could become a part of the school health cummulative record. Correspondence is being done with Dr. G. J. Van Heuvelen relative to the advisability of the State Health Department adding this form for state wide distribution. Further correspondence will be carried out with the State Health Department and the Education Department relative to this form, also the communicable disease chart now in use in Sioux Falls, and the general school health card now distributed by the State Health Department.

Your committee again advises the formation of School Health committees in each district and would welcome correspondence from these committees.

The chairman of your committee had the opportunity to attend the 7th National Conference on Physicians and Schools this past October. The general theme bore out again the various points as outlined in our resolution last year. The two main problems are:

1. The need of thorough examinations done by the family physicians, and
2. The problem of getting adequate examination records to the school.

Over and over again the need of adequate communication in **both directions,** between the family physician and school was stressed. A complete report of the conference should soon be available through the American Medical Association and your State Board of Health.

We hope more will be accomplished throughout the State and in each District before our next school year.

Respectfully submitted,
COMMITTE ON SCHOOL HEALTH
W. R. Anderson, M.D., Chr.
T. E. Eyres, M.D.
G. Q. Olsson, M.D.

The Reference Committee recommends acceptance of this report.

REPORT OF THE COMMITTEE ON BUDGET AND AUDIT

The report of the committee with recommended budget and the audit of funds was presented to the House of Delegates at the 1959 annual meeting. The report was approved.

The committee wishes to report that for the year 1959-1960 we have remained essentially within our budget allowances. The finances of our Association are in satisfactory condition. The audit will be prepared by a Certified Public Accountant and be presented to the House of Delegates during our annual meeting in Aberdeen, May 14-17, 1960.

Respectfully submitted,
COMMITTEE ON BUDGET AND AUDIT
A. P. Reding, M.D., Chr.
A. A. Lampert, M.D.
C. Rodney Stoltz, M.D.

The Reference Committee recommends acceptance of this report.

REPORT OF THE COMMITTEE ON AGING

Your Committee on Aging has been active in this past year to a greater extent than in past years. This greater activity, of course, has been promoted through the Committee on Aging of the American Medical Association, and through the office of the Executive Secretary of the South Dakota State Medical Association, and by the mounting interests in general pertaining to the aging segments of our population. This Committee met on several occasions during this past year, and there has been considerable correspondence through this Committee. Members of the Committee have participated in various programs throughout the state, and your Committee was fully accounted for at the Regional Meeting on Aging sponsored by the American Medical Association, in Minneapolis, in September, 1959.

An unsuccessful attempt was made to organize the Joint Council to Improve the Health Care of the Aged in South Dakota, in the summer and fall of 1959. Through the office of the Executive Secretary of this Medical Association, a successful first meeting, and organizational session of this Council, was first held in January, 1960; but subsequent attempts to bring about meeting of this diversified group have been unsuccessful thus far. The services of your Committee on Aging were offered to Governor Herseth before his Governor's Committee on Aging was appointed. Unfortunately he sought to avoid use of members of your Committee. Nevertheless your Committee on Aging has had a number of contacts with members of the Governor's Committee in the Regional Meetings of the Governor's Committee in the State of South Dakota. In this manner we will continue to cooperate to the best of our ability.

In the future we anticipate that greater and greater demand for time and action will come forth from this Committee in continuing its activities as named above. It is unfortunate that the general topic of Aging has now become the "political football" that was predicted in the 1959 report. Indeed, in this election year 1960, it is anticipated that the political issues on Aging will be so terribly misused and misinterpreted, that the entire topic of care of the Aging will lose considerable dignity and needed interest.

Respectfully submitted,
COMMITTEE ON AGING
Warren L. Jones, M.D., Chr.
Reuben J. Bareis, M.D.
Clark E. Johnson, M.D.

The Reference Committee recommends acceptance of this report, urging constant vigil and efforts to prevent Federal governmental control.

REPORT OF THE COMMITTEE ON CORONER'S LAW

The Coroner's Law Committee believes that legislation should be introduced in 1961 to secure enactment of legislation for the adequate operation of the Coroner's office in South Dakota. The Council on Legislation of the South Dakota State Medical Association has recommended to the Council of the State Association that the Bar Association be approached so that cooperative action may be taken toward the revision of the South Dakota Coroner's Law. The Committee on Coroner's Law is corresponding with the Judicial Council of the Bar Association so that this joint effort can be undertaken.

Respectfully submitted,
COMMITTEE ON CORONER'S LAW
W. A. Geib, M.D., Chr.
R. L. Carefoot, M.D.
R. H. Hayes, M.D.

The Reference Committee recommends acceptance of this report.

REPORT OF THE COMMITTEE ON TRAFFIC SAFETY

A meeting of the Traffic Safety Committee was held in December, 1959. All members were present as was Mr. Foster. Numerous problems were discussed and definitive action begun on several of the major ones.

The committee conducted a survey of emergency services provided for traffic accident victims in South Dakota's thirty largest cities. The object of the survey was to ascertain the level of training of ambulance attendants and also the facilities available for transporting the injured in various sized communities throughout the state. The survey received good press and radio coverage.

As was anticipated, the Implied Consent Law has been contested in the courts. The only point of contention to date, however, concerns the correctness of the title of the law. Judge Dunn at Sioux Falls ruled that the title was incorrect because it covered more than one subject. No question has been raised as to the validity of the law itself.

Efforts are currently being made to establish liaison with committees of the State Bar Association which are concerned with traffic safety. It is felt that such liason will be beneficial to both groups, particularly during the forthcoming legislative session.

Respectfully submitted,
COMMITTEE ON TRAFFIC SAFETY
John J. Stransky, M.D., Chr.
R. L. Lillard, M.D.
H. L. Saylor, M.D.

The Reference Committee recommends acceptance of this report.

REPORT OF THE COMMITTEE ON THE MEDICO-LEGAL CONFERENCE

I had the opportunity to attend one of the annual Medico-legal conventions in Salt Lake City, but regret that our activities in South Dakota have not been too vigorous. I sincerely believe that eventually this will be changed.

The gap between law and medicine is unnecessarily large. In this State, most of the disinterest is fostered by the doctors themselves. This is now becoming a national problem. It may be of interest to the members, that the legal profession has been more efficient in expelling members guilty of unethical conduct than the medical members. This was particularly clear in a case involving unethical practices of doctors and lawyers in combinations in one State of our Union. The Bar expelled the lawyers for conduct unbecoming their profession, but as yet, nothing has been done by the doctors to expel their colleagues who were guilty of the same misconduct.

Respectfully submitted,
MEDICO-LEGAL CONFERENCE COMMITTEE
C. L. Swanson, M.D., Chr.
Ted Hohm, M.D.
P. P. Brogdon, M.D.
W. A. Geib, M.D.

The Reference Committee recommends acceptance of this report, hoping for even closer liaison between the S.D.S. Medical Association and Bar Association.

REPORT OF THE LIAISON COMMITTEE WITH THE SOUTH DAKOTA PHARMACEUTICAL ASSOCIATION

The Liaison Committee with the South Dakota Pharmaceutical Association had no meetings the past year. No major problems have arisen during the year and all business has been handled by correspondence with other members.

Respectfully submitted,
LIAISON COMMITTEE WITH THE S. D. PHARMACEUTICAL ASSOCIATION
R. H. Hayes, M.D., Chr.
F. D. Leigh, M.D.
L. C. Askwig, M.D.

The Reference Committee recommends acceptance of this report.

REPORT OF THE EDITORIAL COMMITTEE

The Editorial Committee regrets to report the continued decrease in the number of papers submitted by the South Dakota physicians; a proportionately greater number of papers are being submitted by out-of-state physicians. We recommend that all speakers at district meetings be contacted by the secretarys of the respective districts for a copy of their papers to be submitted to the State Journal for publication.

Respectfully submitted,
THE EDITORIAL COMMITTEE
R. E. Van Demark, M.D., Chr.
J. T. Elston, M.D.
W. F. Stanage, M.D.
H. R. Wold, M.D.
G. E. Tracy, M.D.
Mary Price, M.D.
A. C. Vogele, M.D.
H. B. Munson, M.D.
R. F. Thompson, M.D.

The Reference Committee recommends acceptance of this report.

REPORT OF THE COMMITTEE ON RURAL MEDICAL SERVICE

No meetings were held during the past year.

A. P. Peeke, M.D., Chr.
G. J. Bloemendaal, M.D.
E. F. Kalda, M.D.

The Reference Committee recommends acceptance of this report.

REPORT OF THE PRESS RADIO COMMITTEE

No meetings were held during the past year.

P. P. Brogdon, M.D., Chr.
Steve Brzica, M.D.
E. A. Rudolph, M.D.

The Reference Committee recommends acceptance of this report.

REPORT OF THE COMMITTEE ON REHABILITATION

No meetings were held by this committee.

George Smith, M.D., Chr.
R. E. Van Demark, M.D.
Paul Bunker, M.D.
D. Hillan, M.D.
C. F. J. Blunck, M.D.

The Reference Committee recommends acceptance of this report.

REPORT OF THE COMMITTEE ON INDIGENT CARE

The Committee on Indigent Care met once during the year. The committee discussed the problems of medical care for categorical assistance recipients and the matter of over hospitalization of some of these people.

The Committee recommends that the Association continue its efforts to establish an adequate medical care program for categorical assistance recipients stressing particularly the need of Old Age Assistance recipients.

The Committee further recommends that the Council authorize a one day training session for new physicians in the State to inform them of Medicare, Blue Shield, insurance, Association activities, etc.

The Committee further recommends that an informational card or brochure on the problems of indigent care be devised and distributed to all physicians in the State.

Respectfully submitted,
COMMITTEE ON INDIGENT CARE
H. P. Adams, M.D., Chr.
A. P. Peeke, M.D.
H. Russell Brown, M.D.
R. A. Boyce, M.D.
P. V. McCarthy, M.D.
E. J. Perry, M.D.
R. F. Hubner, M.D.
C. A. Johnson, M. D.

The Reference Committee recommends the acceptance of this report.

DISTINGUISHED SERVICE AWARDS

Started in 1951

1952—H. Russell Brown, M.D., Watertown
1953—Guy Van Demark, M.D., Sioux Falls
1954—J. C. Ohlmacher, M.D., Vermillion (deceased)
1955—R. G. Mayer, M.D., Aberdeen (deceased)
1956—J. C. Ohlmacher, M.D., Vermillion (deceased)
1957—W. E. Donahoe, M.D., Sioux Falls
1957—Mrs. Lucille Dory, Watertown
1958—Drs. J. C. Hagin, M. W. Pangburn, and James DeGeest, Miller
1958—J. F. Brenckle, M.D., Superior, Wisc. (deceased)

1958—Mrs. Agnes Holdridge, Madison
1959—Walter L. Hard, Ph.D., Vermillion
1959—Rev. and Mrs. Robert O. Bates, Sturgis
1959—R. M. Kilgard, M.D., Watertown (deceased)
1960—L. J. Pankow, M.D., Sioux Falls

FIFTY YEAR CLUB MEMBERS

J. L. Chassell, M.D., Belle Fourche
F. L. Class, M.D., Huron (deceased)
M. E. Cogswell, M.D., Wolsey
V. W. Embree, M.D., Pierre
W. D. Farrell, M.D., Aberdeen
F. W. Freyberg, M.D., Mitchell
E. E. Gage, M.D., Sioux Falls
E. H. Grove, M.D., Arlington (deceased)
J. A. Hohf, M.D., Yankton
F. S. Howe, M.D., Deadwood
A. H. Hoyne, M.D., Salem (deceased)
A. S. Jackson, M.D., Rapid City
R. J. Jackson, M.D., Hot Springs
J. A. Jacotel, M.D., Milbank (deceased)
G. T. Jordan, M.D., Vermillion (deceased)
F. F. Keene, M.D., Wessington Springs (deceased)
B. C. Murdy, M.D., Aberdeen
N. T. Owen, M.D., Rapid City
T. F. Riggs, M.D., Pierre
H. L. Saylor, M.D., Huron (deceased)
F. W. Valkenaar, M.D., Chancellor
C. H. Weishaar, M.D., Aberdeen
O. R. Wright, M.D., Huron (deceased)
H. P. Volin, M.D., Lennox

DR. B. F. KING NAMED TO STATE BOARD

Dr. Bernard F. King, Aberdeen, has been named to the South Dakota State Board of Medical Examiners succeeding **Dr. C. B. McVay** of Yankton.

Dr. King was one of three nominated by the Council of the South Dakota State Medical Association for the Governor's consideration.

H. R. BROWN FEATURED ON A.M.A. CONGRESS ON HEALTH INSURANCE

On May 13th and 14th, the American Medical Association sponsored the National Congress on Prepaid Health Insurance.

Named to moderate a panel discussion on "Increasing Demands vs. Increasing Costs" was Dr. H. Russell Brown of Watertown, S. D. As panelists, Dr. Brown presented Frank Groner, president-elect of the American Hospital Association, Charles Siegfried, vice-president of Metropolitan Life Insurance Co., Dr. William Sawyer, medical consultant to the International Association of Machinists, and Arthur Kemp, Director of the AMA's Department of Economic Research.

A.M.A. STUDIES CIVIL DEFENSE

The Council on National Security of the American Medical Association sponsored its 8th annual national conference on Civil Defense in Miami Beach on June 11th.

The program, presented by the Department of the Navy, consisted of three parts, "Clinical Aspects of Radiation Exposure," "Human Responses to Confined Environments" and "Casualty Care in Disasters."

COLORADO U SETS COURSE ON MEDICAL AUDIT

The University of Colorado School of Medicine is sponsoring a postgraduate course on the "Internal Medical Audit" on August 10-11-12.

The program includes discussion on "Why Do a Medical Audit?", "What Is An Internal Medical Audit?", "Standards of Medical Care," etc.

Faculty includes Dr. Paul Hawley of the American College of Surgeons, Dr. Kenneth Babcock, Director of the Joint Commission on Accreditation of Hospitals; Dr. Madison Brown, Associate Director, American Hospital Association, and many others.

Fee for the course is $35.00 and registration should be directed to The Internal Medical Audit Office of Postgraduate Medical Education, University of Colorado Medical Center, 4200 East Ninth Avenue, Denver 20, Colorado.

South Dakota State Medical Association Roster-1960

Membership By Districts

ABERDEEN
DISTRICT No. 1

Pres., W. E. Gorder, M.D.
Sec., A. C. Vogele, M.D.

Alway, J. D. ..... Aberdeen
Avotins, R. ..... Faulkton
Berbos, J. N. ..... Aberdeen
Belzins, R. ..... Bowdle
Bloemendaal, G. J. ..... Ipswich
Bormes, R. E. ..... Aberdeen
Bowes, H. Angus ..... Aberdeen
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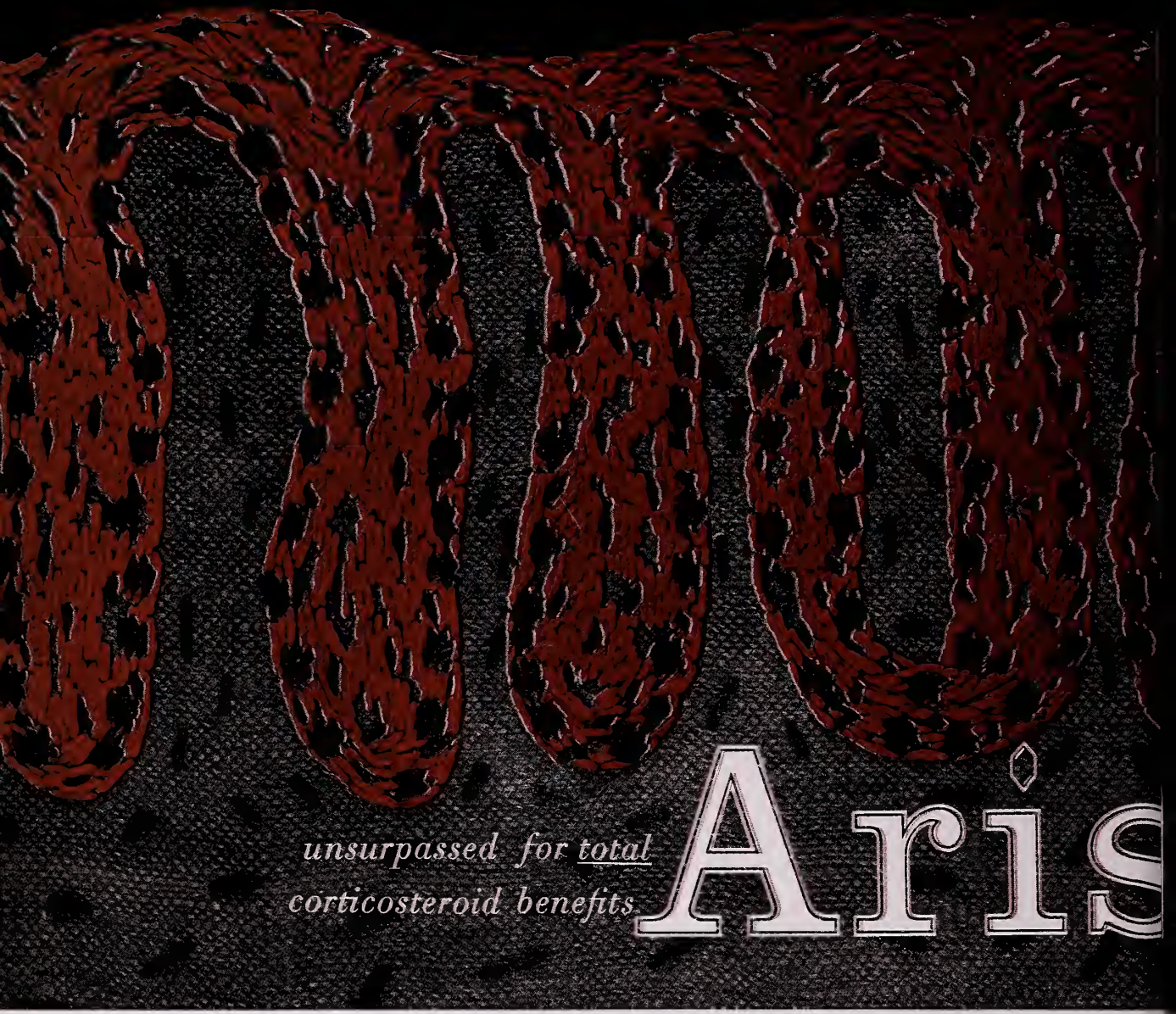
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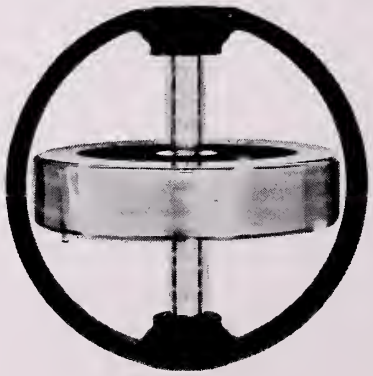


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Brownell, M. E. ..... Rapid City
Buchanan, D. ..... Huron
Buchanan, R. A. ..... Huron
Bunker, P. G. ..... Aberdeen
Burleigh, J. S. ..... Sioux Falls
Burns, E. A. ..... Sioux Falls
Burns, K. R. ..... Sioux Falls
Butler, J. M. ..... Hot Springs
Calene, J. L. ..... Aberdeen
Cameron, D. E. ..... Rapid City
Carefoot, R. L. ..... Huron
*Carney, M. ..... Manhatten, Kan.
Chalmers, J. H. ..... Sioux Falls
Charbonneau, Y. ..... Huron
Chassell, J. L. ..... Belle Fourche
Chu, C. L. ..... Ill.
Church, W. C. ..... Sioux Falls
Clark, B. S. ..... Spearfish
Clark, C. A. ..... Lead
Clark, C. J. ..... Watertown
Clark, F. J. ..... Gregory
Clark, J. C. ..... Sioux Falls
Cline, J. H. ..... Rapid City
Cogswell, M. E. ..... Wolsey
Collins, E. H. ..... Gettysburg
Cook, W. S. (M.S.)
Cooley, F. H. ..... Aberdeen
Coram, F. J. (M.S.)
Cottam, G. I. W. ..... Sioux Falls
Cowan, J. T. ..... Pierre
*Crane, H. L. Washington, D. C.
Crowder, R. ..... Rapid City
Currie, K. P. ..... Britton
Czajkowskj, T. ..... Veblen
Cutshall, V. H. ..... Sioux Falls
Cutshall, V. K. ..... Sioux Falls
D'Arata, E. J. ..... New Underwood
Damm, W. P. ..... Redfield
Davis, J. H. ..... Belle Fourche
Davidson, M. ..... Brookings
Dean, Roscoe ..... Wess. Springs
deBoer, A. ..... Lennox
De Geest, J. M. ..... Miller
Delaney, R. ..... Mitchell
Delaney, W. A., Jr. ..... Mitchell
Devick, J. S. ..... Colton
DeWitt, W. ..... Sioux Falls
*Dick, L. C. ..... Spencer
Dickinson, J. ..... Canistota
Dietz, (M.S.)
Donahoe, J. W. ..... Sioux Falls
Donahoe, R. R. ..... Sioux Falls
Donahoe, S. A. ..... Sioux Falls
Donahoe, W. E. ..... Sioux Falls
Dregseth, K. ..... Yankton
Drissen, E. M. ..... Britton
Driver, D. R. ..... Sioux Falls
Driver, I. E. ..... Aberdeen
Duimstra, F. ..... Sioux Falls
Dulaney, C. H. ..... Ft. Meade
Duncan, Wm. ..... Webster
Dzintars, P. F. ..... Faith
Eckrich, J. A. ..... Aberdeen
Ehik, J. ..... Centerville
Eirinberg, I. ..... Sioux Falls
*Elward, L. R. ..... Redfield
Embree, V. W. ..... Pierre
Ensberg, D. ..... Sioux Falls
Epp, D. ..... Freeman
Erickson, E. G. ..... Sioux Falls
Erickson, O. P. ..... Valley Springs
Eyres, T. E. ..... Vermillion
Fairbanks, W. H. ..... Vermillion
Faithe, Margaret ..... Wakonda
Farrell, H. W. ..... Sioux Falls
*Farrell, W. D. ..... Aberdeen
Feehan, J. J. ..... Rapid City
Finley, R. C. ..... Rapid City
Fisk, R. G. ..... Dell Rapids
*Fisk, R. R. ..... Flandreau
*Fleeger, R. B. ..... Lead
Foley, R. J. ..... Tyndall
Friefeld, S. ..... Brookings
Fox, S. W. ..... Pierre
Frost, D. M. ..... Sioux Falls
*Gage, E. E. ..... Sioux Falls
Geib, W. A. ..... Rapid City
Gere, R. G. ..... Mitchell
Gerrish, E. W. ..... Mobridge
Giebink, R. R. ..... Sioux Falls
Gilbert, F. J. ..... Belle Fourche
Gillis, F. D. ..... Mitchell
Glood, D. ..... Viborg
Gorder, Wm. ..... Aberdeen
Grau, H. J. ..... Rapid City
Green, R. D. ..... Sioux Falls
Greenfield, D. ..... Sioux Falls
Greenfield, R. E. ..... Sioux Falls
Greenough, E. E. ..... Sioux Falls
Gregg, J. B. ..... Iowa
Gregory, D. A. ..... Milbank
Grove, M. S. ..... Sioux Falls
Gryte, C. F. ..... Huron
Haas, F. W. ..... Yankton
Hagan, A. S. ..... Faulkton
Hage, W. ..... Sioux Falls
Hagin, J. C. ..... Miller
Hamm, J. N. ..... Sturgis
Hanisch, E. C., Jr. ..... Huron
Hansen, H. F. ..... Sioux Falls
Hanson, W. O. ..... De Smet
Hare, H. J. ..... Rapid City
Hare, Lyle ..... Spearfish
Hayes, Alfred (M.S.)
Hayes, R. H. ..... Winner
Heidepreim, G. ..... Rapid City
*Heineman, A. A. ..... Wasta
Heinzen, F. J. (M.S.)
Henry, Robert ..... Brookings
Hewitt, J. M. ..... Rapid City
Hillan, D. D. ..... Madison
Hofer, E. A. ..... Huron
*Hohf, J. A. ..... Yankton
Hohm, Paul ..... Huron
Hohm, Theo. ..... Huron
Holland, L. W. ..... Chamberlain
Holleman, W. W. ..... Rapid City
Honke, R. W. ..... Wagner
Hornbeck, N. B. (M.S.)
Horthy, A. ..... Kennebec
Horthy, K. ..... Kennebec
Hoskins, J. H. ..... Sioux Falls
*Howe, F. S. ..... Deadwood
Hubner, R. F. ..... Yankton
Hudgins, D. (M.S.) ..... Aberdeen
Huppler, E. G. ..... Watertown
Hura, R. ..... Howard
Hvam, Ole ..... Quinn
Hyden, Anton ..... Sioux Falls
Ihle, C. W. ..... Sioux Falls
Illig, K. M. ..... Pierre
*Jackson, A. S. ..... Rapid City
*Jackson, R. J. ..... Rapid City
Jacobson, T. R. ..... Hot Springs
Jahraus, R. C. ..... Pierre
Jameson, G. M. ..... Sioux Falls
Janavs, V. ..... Milbank
Janis, J. B. ..... Hoven
Johnson, C. A. ..... Lemmon
Johnson, E. A. ..... Milbank
Jones, W. E. ..... Sturgis
Jones, W. L. ..... Sioux Falls
Judge, W. T. ..... Milbank
Kalda, E. F. ..... Platte
Karlins, W. H. ..... Webster
Kaufman, I. I. ..... Freeman
Kaul, Lothar ..... Sioux Falls
Keegan, Agnes ..... Aberdeen

Kegaries, D. L. ..... Rapid City
Keller, L. W. ..... Webster
Keller, S. A. ..... California
Kelly, W. T. (M.S.)
Kemper, C. E. ..... Viborg
Kershner, C. M. ..... Brookings
Kilpatrick, W. R. J. ..... Huron
King ,B. F. ..... Aberdeen
King, L., Jr. ..... Sioux Falls
Kittelson, H. O. ..... Sioux Falls
Klar, W. ..... Geddes
Knowles, R. C. ..... Sioux Falls
Kohlmeyer, F. C. ..... Sioux Falls
Krijger, P. ..... Groton
Kucera, W. ..... Lead
Lakstigala, Peter — White River
Lampert, A. A. ..... Rapid City
Larson, C. S. ..... Sioux Falls
Leeds, J. F. ..... Hot Springs
Leander, R. B. ..... Sioux Falls
Leigh, F. D. ..... Huron
Lemley, R. E. ..... Rapid City
Lenz, B. T. ..... Huron
Leraan, L. G. ..... Sioux Falls
Lewis, H. R. ..... Mitchell
Lewis, J. R. (M.S.)
Lie, Dagfinn ..... Webster
Lietzke, E. T. ..... Beresford
Lillard, R. L. ..... Winner
Lindbloom, B. O. ..... Pierre
Lindholm, D. D. (M.S.)
Lloyd, J. H. ..... Mitchell
Lloyd, J. H., Jr. ..... Mitchell
Lovering, J. ..... Webster
Logan, R. W. ..... N. Mexico
Lowe, H. E. ..... Mobridge
Lowe, J. A. ..... Mobridge
Lydiatt, J. ..... Hot Springs
Lyso, M. ..... Yankton
Mabee, D. R. ..... Mitchell
Mabee, O. J. ..... Mitchell
MacDonald, R. G. ..... Lemmon
Malters, E. H. ..... Willow Lake
Mangulis, G. ..... Phillip
Manning, D. H. ..... Sioux Falls
Maresh, E. R. ..... Sioux Falls
Marousek, M. ..... Belle Fourche
Marr, L. ..... Estelline
Marr, V. ..... Estelline
Marvin, T. R. ..... Faulkton
Mattice, Lloyd ..... Sioux Falls
Mattox, J. E. ..... Deadwood
Mattox, N. E. ..... Deadwood
Maxwell, R. T. ..... Clear Lake
Mead, T. ..... Spearfish
Merryman, M. P. ..... Rapid City
*Mills, G. W. ..... Wall
Mitchell, C. B. ..... Sioux Falls
Mongeon, C. J. ..... Sioux Falls
Moore, E. J. ..... Vermillion
Morrissey, M. M. ..... Pierre
*Morse, W. E. ..... Rapid City
Muggly, J. A. ..... Madison
Munson, H. B. ..... Rapid City
Murdy, B. C. ..... Aberdeen
Murdy, C. B. ..... Aberdeen
Murdy, R. C. ..... Aberdeen
Murphy, J. C. ..... Murdo
Mutch, M. J. ..... Sioux Falls
Myrabo, A. K. ..... Sioux Falls
McCann, J. P. ..... Parkston
McCarthy, P. V. ..... Aberdeen
McCroskey, R. C. ..... Rapid City
McDonald, C. J. ..... Sioux Falls
McGreevy, E. J. ..... Sioux Falls
McGreevy, J. V. ..... Sioux Falls
McHardy, B. R. ..... Sioux Falls
McIntosh, G. F. ..... Eureka
McManus, T. B. ..... Wess. Springs
McVay, C. B. ..... Yankton
Nelson, M. H. (M.S.)
Nelson, P. S. ..... Watertown
Nelson, J. A. ..... California
Nelson, R. E. ..... Sioux Falls
Nieher, W. C. (M.S.)
Nilsson, F. C. ..... Sioux Falls
Nolan, B. P. ..... Mobridge
Norgello, V. ..... Redfield
Nozik, H. I. (M.S.)
Ogborn, R. J. ..... Sioux Falls
Olson, R. G. ..... Sioux Falls
Olsson, G. Q. ..... Rapid City
Opheim, W. L. ..... Sioux Falls
Orgusaar, R. ..... Woonsocket
Otey, B. T. ..... Flandreau
O'Toole, T. F. ..... Rapid City
Owen, G. S. ..... Rapid City
*Owen, N. T. ..... Rapid City
Palmerton, E. S. ..... Rapid City
Pangburn, M. W. ..... Miller
Pankow, L. J. ..... Sioux Falls
Parke, L. L. ..... Canton
Pasek, E. R. ..... Sioux Falls
Patt, W. H. ..... Brookings
Patterson, D. ..... Redfield
Paulson, G. S. ..... Rapid City
Pearce, Ida ..... Rapid City
Peeke, A. P. ..... Volga
Peabody, P. D., Jr. ..... Sisseton
Peik, D. J. ..... Sioux Falls
Pemberton, M. O. ..... Rapid City
Peiper, W. ..... Mitchell
Perry, E. J. ..... Redfield
Peters, E. H. ..... Sioux Falls
Pfisterer, T. R. ..... Redfield
Phillips, R. K. ..... Hot Springs
Plowman, E. T. ..... Brookings
Pokorny, J. F. ..... Newell
Portela, A. J. ..... Mitchell
Porter, M. H. ..... Parkston
Quinn, R. H. ..... Sioux Falls
*Quinn, R. J. ..... Sioux Falls
Radusch, F. J. ..... Rapid City
Rank, R. K. ..... Aberdeen
Ranney, Brooks ..... Yankton
Reagan, P. R. ..... Sioux Falls
Reaney, D. B. ..... Yankton
Reding, A. P. ..... Yankton
Reifel, A. ..... Sioux Falls
Riesberg, Elsa ..... Yankton
*Riggs, T. F. ..... Pierre
Roberts, C. S., Jr. ..... Brookings
Rodine, J. C. ..... Aberdeen
Roesel, R. W. ..... Nebr.
Roper, C. E. ..... Hot Springs
Rousseau, M. C. ..... Watertown
Rudolph, E. A. ..... Aberdeen
Sabbagh, M. ..... Lemmon
Salladay, I. R. ..... Pierre
Sanders, M. E. ..... Redfield
Sanderson, E. W. ..... Sioux Falls
Sattler, T. H. ..... Yankton
Saxton, A. J. ..... Rapid City
Saxton, W. H. ..... Huron
Saylor, H. L., Jr. ..... Huron
Schabauer, E. R. ..... Hosmer
Schaeffer, J. H. ..... Sioux Falls
Scheffel, A. ..... Redfield
*Scheib, A. P. ..... Watertown
Scheller, D. L. ..... Arlington
Sebring, F. U. ..... Martin
Semones, A., Jr. ..... Lead
Sercl, W. F. ..... Sioux Falls
Sherrill, S. F. ..... Belle Fourche
Shreves, H. ..... Sioux Falls
Simons, S. ..... Pierre
Skogmo, B. R. ..... Mitchell
Slingsby, J. B. ..... Rapid City
Smiley, J. C. ..... Deadwood
Smith, G. W. ..... Sioux Falls
Spain, M. L. ..... Rapid City
Spiry, A. W. ..... Mobridge
Stahmann, F. ..... Sioux Falls
Stanage, W. F. ..... Yankton
Steele, G. H. ..... Aberdeen
Steele, J. P. ..... Yankton
Steiner, P. ..... Sioux Falls
Stern, C. A. ..... Sioux Falls
Stewart, N. W. ..... Lead
Stoltz, C. R. ..... Watertown
Stone, D. Q. (M.S.)
Stransky, J. J. ..... Watertown
Strauss, B. ..... Parker
Studenberg, J. E. ..... Winner
Sullivan, W. S. (M.S.)
Sundet, N. J. ..... Kadoka
Swanson, C. L. ..... Pierre
Sweet, E. P. ..... Burke
Tank, M. C. ..... Brookings
Taylor, Wm. R. ..... Aberdeen
Theissen, H. H. ..... Rapid City
Thompson, R. F. ..... Yankton
Tidd, J. T. ..... Yankton
Tobin, F. J. ..... Mitchell
Toren, R. ..... Sioux Falls
Torkildson, G. ..... McLaughlin
Totten F. C. ..... Lemmon
Tracy, G. E. ..... Watertown
Tschetter, P. S. ..... Huron
Turner, C. R. ..... Brookings
Urbanyi, E. W. ..... Gettysburg
*Van Demark, G. E. Sioux Falls
Van Demark, R. E. Sioux Falls
Van Heuvelen, G. J. ..... Pierre
Van Lier, P. C. ..... Sioux Falls
Villa, J. P. ..... Freeman
Vogele, A. C. ..... Aberdeen
Vogele, C. L. ..... Aberdeen
Volin, H. P. ..... Lennox
Volin, V. V. ..... Sioux Falls
Vonburg, V. R. ..... Mitchell
Vose, J. L. ..... Mitchell
Wall, D. W. (M.S.)
Walters, S. J. ..... Watertown
Watson, E. S. ..... Brookings
*Weishaar, C. E. ..... Aberdeen
Werthmann, H. ..... Pierre
Wessman, N. E. ..... Sioux Falls
Westaby, J. R. ..... Madison
Westaby, R. S., Jr. ..... Rapid City
Westland, G. I. ..... Onida
White, F. T. (M.S.)
Whitson, G. E. ..... Madison
Willcockson, T. H. ..... Yankton
Willen, Abner ..... Clark
Williams, D. B. ..... Sioux Falls
Williams, F. R. ..... Rapid City
Williams, M. F. ..... Sioux Falls
Wingert, Marvin ..... Garretson
Winter, M. D. (M.S.)
Wold, H. R. ..... Madison
Wood, G. F. ..... Rapid City
Wrage, T. R., Jr. ..... Watertown
Wright, J. C. (M.S.)
Yackley, J. V. ..... Rapid City
Zandersons, V. ..... Herreid
Zeidaks, O. ..... Waubay
*Zimmerman, Goldie E.
Missoula, Montana
Zvenjnieks, K. ..... Leola

*Indicates Honorary Member

M.S. Indicates Military Service

BLUE SHIELD

CORPORATE BODY ANNUAL MEETING

MINUTES — MAY 14, 1960

AGENDA

South Dakota Medical Service
Annual Corporate Meeting

Call to Order—President, Donald H. Breit, M.D.
Roll Call—Secretary, John C. Foster
Financial Report—Calendar Year 1959-Annual Report Booklet
Report on Medicare—Past 12 Months
Election of Board Members—Terms ending for Drs. C. F. King, P. H. Hohm, A. A. Lampert, and Mr. Neil Larson.
Old Businness—

1. "Special House of Delegates" meeting at Huron, S. D. February 28, 1960.
2. High Income Level Program for South Dakota.
3. Report on Federal Employees Health Benefits Program.

New Business—Motions from the floor.
Adjournment.

MINUTES OF THE REGULAR MEETING OF THE MEMBERSHIP of South Dakota Medical Service, Inc., held on May 14, 1960, in the Alonzo Ward Hotel, Aberdeen, South Dakota, pursuant to notice of such meeting duly given.

The meeting was called to order by the President, Dr. D. H. Breit. The Secretary called the roll and the following members were present: Drs. R. A. Buchanan, C. R. Stoltz, A. P. Reding, C. J. McDonald, A. A. Lampert, Magni Davidson, E. J. Perry, J. J. Stransky, M. C. Tank, L. C. Askwig, Paul Hohm, P. P. Brogdon, N. E. Wessman, T. H. Sattler, R. H. Hayes, H. E. Lowe, E. A. Johnson, M. C. Rousseau, S. J. Walters, J. A. Anderson, S. W. Fox, C. L. Swanson, T. A. Hohm, R. Dean, J. Donahoe, R. R. Giebink, J. V. McGreevy, A. K. Myrabo, R. F. Hubner, J. P. Steele, R. A. Boyce, W. A. Geib, W. E. Jones, E. P. Sweet, John Lowe, H. H. Brauer, D. L. Scheller, J. H. Lloyd, Jr., O. P. Erickson, and R. J. Bareis. The President declared a quorum present and the meeting ready to transact business.

The Secretary presented the financial report of the corporation for the calendar year 1959. Dr. Stransky moved that the report be accepted in accordance with the CPA audit. Dr. Perry seconded the motion and it was unanimously carried.

The 1959 Medicare financial report was reviewed and same was accepted and approved.

Upon request of the President, Drs. R. A. Boyce, Roscoe Dean, and L. C. Askwig were selected as a nominating committee and they submitted the following nominations for 3 year terms. Drs. B. F. King, P. H. Hohm, and John Elston. A unanimous ballot was cast. Dr. Swanson moved that the Board of Directors be empowered to select a lay representative to fill the vacancy of Neil Larson, and with a second to the motion by Dr. Stoltz the same was unanimously carried.

The nominating committee also expressed thanks to Dr. Lampert who had "fathered the program and worked many hours on it." This remittance was accepted by acclamation.

Discussion was then had on the matter of the special meeting of the corporation concerning the high income level program for South Dakota. The President read the recommendation of the Board, "that the high level Blue Shield program for South Dakota not be adopted at this time, but that actuarial studies be continued." Dr. Myrabo moved for adoption of the recommendation, and same motion was seconded. Dr. Geib then amended the motion to give power to the Board of Directors of Blue Shield to adopt the high level Blue Shield program. Because of no second to the amendment it was not passed, but the original motion carried.

Mr. Foster discussed the Federal Employees Health Benefits Program, and there being no further business to come before the meeting, the same was duly adjourned.

MINUTES OF THE SPECIAL MEETING OF THE MEMBERSHIP of South Dakota Medical Service, Inc., held on February 28, 1960, in the Marvin Hughitt Hotel, Huron, South Dakota, pursuant to notice of such meeting duly given.

The meeting was called to order by the President, Dr. D. H. Breit, The Secretary called the roll and the following members were present: Drs. R. A. Buchanan, C. R. Stoltz, C. J. McDonald, A. P. Reding, A. A. Lampert, Magni Davidson, J. J. Stransky, L. C. Askwig, Paul Hohm, R. H. Hayes, C. J. Bloemendaal, M. C. Rousseau, S. J. Walters, D. C. Austin, J. A. Anderson, S. W. Fox, Roscoe Dean, T. A. Holm, J. H. Lloyd, Robert Giebink, G. M. Jameson, A. K. Myrabo, W. A. Geib, I. R. Salladay, H. R. Brown, Howard Shreves, and Peter Lakstigala. The following four proxy votes were voted by Drs. Lampert and Geib: J. J. Feehan, R. J. Bareis, R. A. Boyce, J. D. Bailey (copy attached). The President declared a quorum present and the meeting ready to transact business.

Dr. C. J. McDonald moved to dispense with the reading of the minutes of the last meeting, and that the same be approved as published. Dr. Paul Hohm seconded the motion and the same was unanimously carried.

Dr. A. A. Lampert moved that South Dakota Medical Service, Inc. be authorized to increase the Service Benefit of the Standard Plan I from $3600.00 to $4000.00. Dr. Paul Hohm seconded the motion and after some discussion the same was unanimously carried.

Discussion was then had on the matter of the high-level coverage proposed for Federal Employees under the National Accounts agreement. Dr. A. A. Lampert moved that South Dakota Medical Service be authorized to establish a $6000.00 service benefit for Federal Employees. Dr. R. H. Hayes seconded the motion. The vote was 21 in favor, 8 opposed. Motion carried.

Dr. W. A. Geib then moved that a contract be formulated with a service benefit for all people with income under $6000.00 to be offered by Blue Shield, with the provision that the contract not be finally adopted until approved by the corporate body. Dr. J. J. Stransky seconded the motion. The vote was 17 in favor, 9 opposed. Motion carried.

Dr. A. A. Lampert moved that the suggestion from Blue Shield Board of Directors concerning the offer to Blue Cross to take over Poulsen con-

SOUTH DAKOTA MEDICAL SERVICE, INC.

COMPARATIVE BALANCE SHEETS

DECEMBER 31, 1958 AND DECEMBER 31, 1959

ASSETS	December 31 1958	1959	Increase Decrease
Ledger Assets:			
Cash on Hand and in bank	$55,047.15	$64,288.18	$ 9,241.03
Reserve fund	8,105.09	9,693.35	1,588.26
Stock—Rushmore Credit Corporation	1,000.00	1,000.00	-0-
Certificates of Deposit	-0-	10,000.00	10,000.00
Note receivable	4,000.00	4,000.00	-0-
Total ledger assets	$68,152.24	$88,981.53	$20,829.29
LIABILITIES AND RESERVES			
Liabilities:			
Notes payable—Doctors and medical institutions	$12,800.00	$ 3,100.00	$ 9,700.00
Accounts payable — trade	35.80	-0-	35.80
Withholding tax payable	161.60	192.10	30.50
Social security tax payable	50.13	12.19	37.94
Accrued State of South Dakota premium tax payable	768.83	1,194.67	425.84
Total liabilities	$13,816.36	$ 4,498.96	$ 9,317.40
Deferred Income:			
Unearned subscriber dues	$ 9,477.58	$17,268.29	$ 7,790.71
Reserves:			
Estimated claims — not reported	$20,000.00	$27,000.00	$ 7,000.00
Surplus	$24,858.30	$40,214.28	$15,355.98
Total Liabilities and Reserves	$68,152.24	$88,981.53	$20,829.29

MEDICARE
FINANCIAL REPORT

	Claim Cost	Administrative Cost	Total	% Administrative Cost
May 59	$ 6,102.00	$ 309.47	$ 6,411.47	5.1%
June 59	7,839.35	327.13	8,166.48	4.2
July 59	No. payment — Funds Frozen			
Aug. 59	6,157.25	250.78	6,408.03	4.1
Sept. 59	3,184.50	290.48	3,474.98	9.1
Oct. 59	4,229.00	262.71	4,491.71	6.2
Nov. 59	3,750.75	273.63	4,024.38	7.3
Dec. 59	4,091.50	317.23	4,408.73	7.8
Jan. 60	2,111.75	346.33	2,458.08	6.1
Feb. 60	3,737.61	272.22	4,009.83	7.3
Mar. 60	3,864.60	306.86	4,171.46	7.9
Apr. 60	3,433.65	293.59	3,727.24	8.6
Total	$48,501.96	$3,250.43	$51,752.39	73.7%
Average	4,409.27	295.49	4,704.76	6.7%

tracts be accepted and service benefits be adopted as indicated. Dr. Howard Shreves seconded the motion and it was unanimously carried.

Upon a motion made by Dr. R. H. Hayes, seconded by Dr. C. J. McDonald, and unanimously carried, the Board of Directors of South Dakota Medical Service were authorized to solicit physicians for participation in the new programs.

There being no further business, the meeting was adjourned on motion at 3:10 p.m.

HIGH LEVEL INCOME SERVICE BENEFITS

At the special House of Delegates meeting in Huron on February 28th, the House, acting as the Corporate Body of South Dakota Medical Service, adopted a high level service benefit plan of $6000 for Federal Employees.

A motion was subsequently introduced to extend this plan to all residents of South Dakota. This motion was replaced by a substitute motion which directed Blue Shield to bring to the next House meeting a proposal for such a plan.

The headquarters office submitted the present Blue Shield plan with a fee schedule based on $5.00 per point in the proposed Relative Value Study to its actuaries. A telephone conversation with the actuary on April 27th indicated no possibility of receiving the information in time to prepare it for this handbook.

If the information is available by May 14th, it will be presented orally.

REPORT OF FEDERAL EMPLOYEES HEALTH BENEFITS PROGRAM

Preparations for the start of the "Federal Employees Group," July 1, 1960, is in full swing. The contract between South Dakota Medical Service, Inc. and the National Blue Shield Commission has been signed, and we have started setting up our procedures for this new group.

This new health program will cover 8,622 federal employees in South Dakota, or between 25,000 and 30,000 people.

As shown on the previous page, a "Special House of Delegates" meeting was held in February to determine whether or not South Dakota Blue Shield could participate in the Federal Group. Authorization was given at that time to establish a "high level" plan for this group with a service benefit income limit of $6,000.00 for a family, and a $4,000.00 benefit for the "low level" plan. This $4,000.00 service benefit was also extended to our Standard plan, which is now held by all South Dakota subscribers. Also, authorization was given to contact South Dakota doctors for the purpose of signing contracts as "participating physicians" for the Federal Group. To date, 200 doctors have signed the contracts.

Our feeling is, that If Blue Shield can make a good showing in the administration of this Federal Group, it may be one more step towards curbing the socialistic movement in the medical care field. The support of each and every physician will be very important in the over-all outcome of this program.



Protection against loss of income from accident & sickness as well as hospital expense benefits for you and all your eligible dependents.

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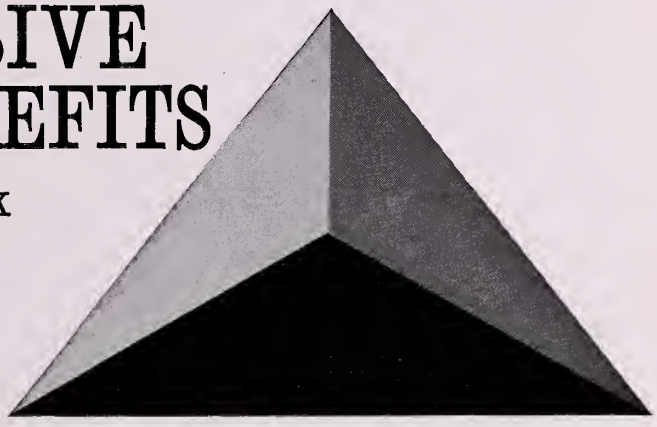
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LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

South Dakota Medical Assistant's Annual Meeting Program

August 26-27, 1960 — Sioux Falls, S. D.

Is your medical assistant in a rut? Then help her out by sending her to Sioux Falls to learn new things about medicine and business. She may find the solution to her perplexing problems. Remember there isn't a school in South Dakota that trains your medical assistant for her position so help her learn by sending her to AMA sponsored workshop and convention of the SOUTH DAKOTA MEDICAL ASSISTANTS ASSOCIATION on AUGUST 26-27th in **Sioux Falls.** Read on for further details.

August 26th

8:30 to 10 p.m.	A coffee party sponsored by the Sioux Falls Medical Assistants to be held at the Sheraton-Cataract Hotel. A good chance to meet old friends and make new ones.

August 27th

8:00-9:30 a.m.	Registration at the Sheraton-Cataract Hotel.
9:30	Business meeting of the South Dakota Medical Assistants.
11:30-1:00	Lunch break. A chance for the out-of-town girls to do a little shopping.
1:00	Depart for the Crippled Children's Hospital and School on charter bus service for the afternoon session.
1:30	Tour of the Crippled Children's facilities. This will benefit all medical assistants to better understand what is available for their doctor's patients. The assistants will be better able to answer anxious parent's questions about the education and physical training provided in this extensive hospital and school.
2:30	Jean Meyrick, a national representative from the American Medical Association, will speak on how AMA works in close conjunction with AAMA for the betterment of medical assistants.
3:15	Dr. L. J. Pankow, this year's winner of the Distinguished Service Award by the South Dakota State Medical Association, will speak on "Professional Ethics." We are sure all medical assistants need brushing up on this vital but sometimes neglected part of our medical training.
4:30	Charter bus will again return the assistants to the Sheraton-Cataract Hotel for a film "The First Contact" produced by Wyeth Company in conjunction with AAMA.
6:00	Cocktail Hour — Sheraton-Cataract Hotel.
7:00	Banquet. Master of Ceremonies will be Mr. John C. Foster, Executive Secretary of the South Dakota Medical Association. Featured speaker will be Dr. C. Rodney Stoltz, President of the South Dakota Medical Association.

All in all the South Dakota Medical Assistants feel they have an excellent program planned for medical assistants throughout the state. The registration fee is $5.00 which includes the above program, banquet, cocktail hour and coffee party. Assistants should send reservations by the 15th of August to Miss Agnes Dahmen, Hartford, South Dakota.

PRESIDENT'S PAGE



Dear Friends:

We have just returned from the meetings of the American Medical Association in Miami Beach. One highlight for me was the Conference of State Presidents and other officers held at the Americana Hotel, at which time the chairmen of both of our major political paries were speakers.

Mr. Paul Butler practically promised that the Democratic platform will include a proposal for health care of the aged along the lines of the Forand Bill. This statement, coming as it did prior to the party's national convention, was not well received by this group.

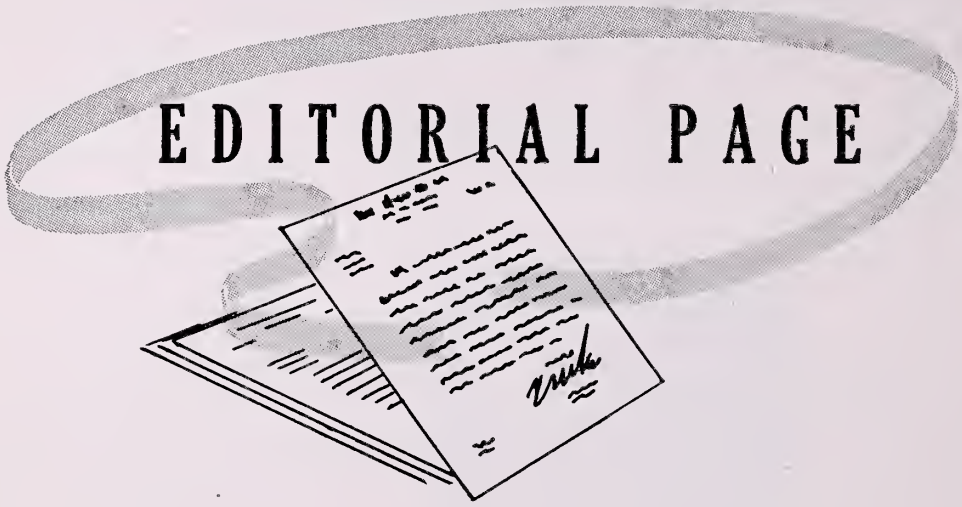
Senator Thurston Morton stated that in his opinion the main issue of the coming campaign would be foreign affairs. He pointed up the basic differences of philosophy of the democrats and the republicans with a clever analogy, saying in essence that every time a pimple developed on the national corpus, the Democrats rushed in with some sort of "Federal band aid," while the Republicans felt these matters should be treated on a local or state level if possible.

On returning home I find communications from the South Dakota Physicians Committee regarding their aims. In view of my experiences at Miami it is more apparent than ever that such an organization is necessary and should have the full support of all physicians and their wives, no matter what their party affiliations. I hope you will give this Committee your wholehearted cooperation.

Very sincerely yours,

C. Rodney Stoltz, M.D.

P. S. It will be very worthwhile for you to call to your wife's attention—and for you also to read—Dorothy Thompson's short article in the July issue of the **Ladies' Home Journal** entitled "Who Are the Aged?" In it Miss Thompson very concisely lists some of the inadequacies of a Federal old-age health insurance plan, concluding that "it will create new problems and leave many basic ones unsolved."



WATCH OUT!

It is quite possible the powers that be in Washington have more than one reason for complaining about the price of drugs. Senator Estes Kefauver's drug price investigating subcommittee would have us believe that the government's sole interest is "simply with the price of drugs — a price which must be paid by someone under any system of medical care." I think there is a psychological reason which they hope to keep under cover. This Senate antitrust investigation is just another cunning approach in the attempt to slip socialized medicine in at the back door. It appears to me that Mr. Kefauver almost gave this fact away in his opening statement when he said: "It is not the purpose of these hearings to question in any way the American system of private medical practice." I react to this statement in the same manner I would if a small boy should rush into my office and exclaim: "Doctor, someone batted a baseball through your back window — and I don't want you to think that I did it."

If these investigators' thoughts were just in the drug field, they should also be concerned about quality as well as price. They certainly have shown a lack of interest in the cost of pharmaceutical research and manufacturing, and without research drugs would soon degrade in both quality and quantity. The Senator's line of reasoning in advocating that druggists be allowed to use generic instead of brand names, would throw the drug business into a tail spin within a short time. If one company spends a million dollars to produce a new drug, and another concern is allowed to copy the formula, pay none of the research cost, and market the product at a low price, the results would be disastrous. The better firms would go broke, initiative to find new drugs would be smothered and we would find ourselves advancing in reverse—back towards the "calomel and castor oil days."

I feel that these governmental probes are motivated, primarily, for publicity. If they can attract enough attention by their investigations of the major drug manufacturing firms, and lead the American people into believing that the prices of drugs are too high, it might be possible to gain a large number of sympathetic listeners.

They hope to stir up enough interest in the drug controversy to swing the spotlight away

*Reprinted from Virginia Medical Monthly, Vol. 87, pages 175-176, April, 1960.

from the doctors for a while, give us a breathing spell, make us feel complacent and lessen our vigil against legislation like the Forand bill. It is their wish that we don't get wise to their twofold purpose of these investigations in relation to the Forand bill itself. First, they will attempt to convince the lay public that older people, on social security, will not be able to pay the high drug prices — and that the government should step in to help. Second, if these tactics could get a Forand type of legislation passed without enough medical publicity to stir up strong opposition — they would be in position to widen social Security to cover everybody. Then we would have socialized medicine under another name.

People, consciously, or unconsciously, associate drugs and physicians together. An aroused populace against drug prices would not be too friendly towards the medical profession. Such a situation would gain recruits for a more effective battle against the free practice of medicine. While we sit on the side lines, apparently unmolested, and watch the steam roller attempt to crush the drug firms, we must remain alert. We could get caught napping like Hitler did one time during World War II — when the Allied soldiers were issued heavy, long-handled underwear. As soon as the Germans got wind of it, they rushed up to Norway while our troops poured into Africa. It behooves us to watch out for all sorts of misleading tactics, because this drug battle is only a sham attack. The medical profession is their chief objective. They hope to find time to reorganize their forces, turn upon us without warning and launch a surprise attack where and when we might least expect it.

F. Clyde Bedsaul, M.D.

BLUE SHIELD SHOWS GROWTH

More than 45,600,000 persons were enrolled in the 74 Blue Shield Plans located in North America as of March 31, 1960, the National Association of Blue Shield Plans reported here today. Total membership in Blue Shield at the end of March reached 45,647,242 as a result of a net growth of 854,319 new members during the first three months of the current year.

A substantial segment of the first quarter Blue Shield growth was represented by the enrollment of Rhode Island Medical Society Physicians Service. Recently approved as an active member of the National Association of Blue Shield Plans, the 565,430 membership of this Plan was included in the national Blue Shield membership totals for the first time during the first quarter of 1960.

"Blue Shield now covers nearly one-fourth of the total United States population and almost 15 per cent of the total Canadian population," the national association noted in its enrollment report.

Two Blue Shield Plans registered exceptional enrollment gains during the three month period. Massachusetts Medical Service, the Blue Shield Plan headquartered in Boston, added nearly 53,000 members during the period, while Rochester, N. Y., Blue Shield registered a net gain of more than 42,500 members.

The national association also reported that four Blue Shield Plans have enrolled more than 60 per cent of the population in the areas they serve. They are the Plans serving the District of Columbia, Rhode Island, Delaware and Rochester, N. Y., areas.

South Dakota Blue Shield has kept up its steady pace of enrollment, showing a net gain of 382 contracts for the last three month period. This means that approximately 1000 new South Dakotans have been covered by Blue Shield between January 1, and March 31, 1960.

HERMANIS RIESBERG, M.D.
1898—1960

A heart attack early in the morning of June 13th claimed the life of Hermanis Riesberg, M.D., of the staff of the Yankton State Hospital.

Dr. Riesberg was born in Riga, Latvia, and came to Yankton in 1950. He was physician in charge of acutely ill patients in the institutions' hospital building.

He is survived by his wife, Dr. Elsa Riesberg, and three daughters.

Dr. Riesberg was an active member of the Yankton District Medical Society, the South Dakota State Medical Association and the American Medical Association.

This is your

MEDICAL ASSOCIATION

NEWS • NOTES • • • BIRTHS • • • CHANGES • NEWS



Two-thirds of the Auditing and Appropriations Committee ponder the 1960-61 budget at the annual meeting in Aberdeen. Pictured are Drs. A. A. Lampert and A. P. Reding. Third member is Dr. C. R. Stoltz, just out of range of the camera.

Pop's Proverbs

A lazy man figures out a way to do it easier, and when he succeeds he is called an inventive genius.

FUTURE DOCTOR'S CLUB ACTIVE IN WATERTOWN

A Future Doctor's Club, operating under the auspices of Dr. Romans Auskaps and Mr. Joe Claflin, an instructor at the Watertown High School, has been well accepted by students in the Watertown area. Regular meetings are being held every other week. At the present time, half a dozen young men who are interested in practicing medicine are attending the sessions. The Watertown District Medical Society is wholeheartedly behind the project and underwriters expenses of film rentals, etc.



The Council deliberates during the annual meeting in Aberdeen. Near perfect attendance at all business sessions was recorded.

NEWS NOTES

Dr. Alton Ochsner, professor of Surgery at Tulane University Medical School, addressed the June graduates at the University of South Dakota. Dr. Ochsner, considered America's leading authority on lung cancer, is a native of Kimball and a University of South Dakota graduate.

* * *

The South Dakota Heart Association held its annual meeting in Sioux Falls on May 28. **Dr. Ogelsby Paul,** Chicago, president-Elect of the American Heart Association, was the main speaker.

* * *

Dr. Charles R. Price, formerly of Hot Springs, is now located at Deadwood.

* * *

Dr. F. J. Abts of Yankton, who was the ship's surgeon on the S. S. President Polk for two recent voyages, received high praise from members of the Ships Stewards Department. Dr. Abts treated the sick and injured from the turbulent Atlantic crossing and a near epidemic of flu.

Dr. H. Russell Brown, Watertown, took part in the National Congress on Prepaid Health Insurance meeting recently in Chicago, sponsored by the A.M.A.

* * *

Drs. H. Russell Brown, Watertown, and **A. A. Lampert,** Rapid City, will attend a regional A.M.A. meeting on legislation in Salt Lake City on July 29th and 30th. Dr. Brown is chairman of the South Dakota Medical Association's Committee on Legislation and Dr. Lampert is delegate to the A.M.A.

* * *

Dr. C. A. Johnson, Lemmon, was elected president of the medical staff of Five Counties Hospital for the year 1960-61.

* * *

Dr. Konstantin Sprosts, formerly at Conde and Presho, has become associated with **Dr. F. U. Sebring** at Martin.

* * *

Dr. Richard Hosen, Laurel, Mississippi, has joined the staff of the Donahoe Clinic in Sioux Falls in the practice of pediatrics.

Dr. Alfred Falkner, Deadwood, recently of Saskatchewan, Canada, spoke to the Zonta Club of Deadwood and Lead on the advent of socialized medicine in that province on June 15th.

* * *

Dr. F. E. Kelsey, Professor of Pharmacology at the University of South Dakota Medical School, has been appointed to a staff position in the Research Branch of Health at Bethesda, Maryland. Dr. Kelsey's wife, also a practicing physician, and their two children have moved to Washington, D. C., where they reside at 5510 Nevada Avenue, Northwest.

* * *

MIAMI CONFERENCE HAS FIREWORKS

The Conference of Presidents and Other Officers of State Medical Associations, held June 12, in connection with the AMA meetings in Miami hit real fireworks when Paul Butler, Chairman of the Democratic National Committee, in unadorned language told the doctors that they were out of step with social progress. He followed the Honorable Ross Barnett, Governor of the State of Mississippi, who had just lauded the doctors for their position taken for individual initiative and private freedom. Butler was followed by Thruston B. Morton of Kentucky, Chairman of the Republican National Committee, who took a different attitude on the whole picture, pointing to the fact that the next election will not be decided on the basis of health and welfare programs; but

on the basis of who the individual the people think can most ably cope with the problems engendered by foreign powers in the world. Three members of the South Dakota State Medical Association were in attendance at the Conference meeting.

Dr. Joseph Kass has located in Rosholt, South Dakota.

* * *

Dr. C. Fred Faulkner has located at Deadwood, South Dakota. Dr. Faulkner previously practiced in Canada.



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Rapid City, S. D.
528 Kansas City St.

Dr. T. H. Willcockson of Yankton was named co-chairman for the United Fund Drive in that community.

* * *

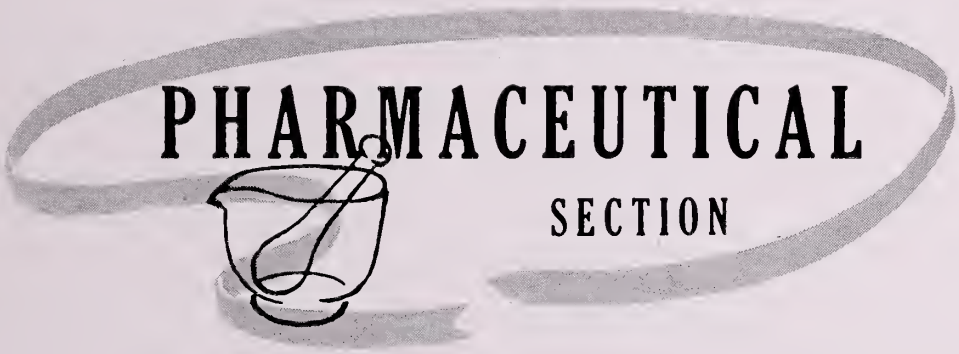
William Taylor, M.D., and **John C. Foster,** executive secretary of the South Dakota State Medical Association, represented the State Medical Association on the program of the regional conference on aging held May 26 in Aberdeen under the sponsorship of the Governor's Committee on aging.

* * *

Mrs. Paul Hohm of Huron, was elected president of the Woman's Auxiliary at the State meeting in Aberdeen.

* * *

Mrs. E. H. Wilkinson of Highmore, was named "Doctor's Wife of the Year" at the Auxiliary meetings in Aberdeen in May.



HAROLD S. BAILEY, PH.D.
EDITOR
Division of Pharmacy
South Dakota State College
Brookings, South Dakota



A LOOK INTO THE FUTURE THROUGH THE EYES OF THE AMERICAN PHARMACEUTICAL ASSOCIATION*

William S. Apple, Ph.D.

Washington, D. C.**

As you can see, I've been given the safest kind of topic. It deals in a form of prognostication — crystal-gazing, if you will. Because, ordinarily, the prophecies of the oracle don't come back to haunt him long after everyone has forgotten it was he who uttered them.

There is, however, a more perilous course that might be followed, where the speaker gets fairly specific in his remarks and demands that the audience not have the luxury of leaving the hall to await developments, but take action immediately to see to it that what is called for is brought about.

Perhaps it's my Midwest upbringing; or maybe it's that I, too, came a long way to be with you or, more likely, it is because I have an immense amount of respect for you people, that I have chosen to follow the more perilous course here this morning.

It occurred to me that it's almost a sacrilege to discuss things in the context of grim challenges in such a lavish setting as that which surrounds us. But I'm confident that you ladies and gentlemen didn't travel many miles for the Florida sunshine alone. Your affiliation with the American College of Apothecaries, and all that it signifies, is ample evidence of your understanding of professional responsibility.

I wish that my first address to you as Secretary of the American Pharmaceutical Association might have been one of reassurance that all is well in the profession, but we haven't the time to indulge ourselves in the luxury of daydreams. Grim challenge is truly that which lies before us.

But, to discuss the future of pharmacy in any context requires that we establish that pharmacy does indeed have a future worth discussing, and that conditions must be met to insure that future.

Although any complete discussion of the

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*An address given to the annual convention of the American College of Apothecaries, Monday, February 15, 1960, American Hotel, Miami Beach, Florida.

**Secretary of the American Pharmaceutical Association.

future should be based on the past, I'm not going to dwell on the problems we've had over the years — you all know what they were and are.

But, where are we today?

We find splinter organizations arising within the profession to diminish the over-all strength of established national groups. We find that the Kefauver hearings have tossed a major public relations problem in our laps. We find mail-order prescription schemes imperiling the future of community pharmaceutical service. We find more pressure being brought to bear to provide special government programs for the aging.

And there is the threat of increased governmental encroachment in drug distribution. Many states are considering closed panels for drug distribution. But these are festering sores; they really haven't come to a complete head as yet. And gigantic as they may become, they're small in comparison to the over-all problem we face as a profession.

To put the situation into focus, let me summarize the circumstances that brought American pharmacy together in the first place. A century ago there was no organization of pharmacy. There was no real regulation of drug distribution thoughout the country. Inferior drugs were being dumped into the United States, unchecked by any effective enforceable laws. The educational system was in its infancy. Licensure and codes of practice were of local origin and only sparsely evident.

Moreover, there was no means of communications between the various interests concerned with pharmacy.

So the founding fathers took action to meet the needs of the times and the American Pharmaceutical Association was born. As time went by, with the encouragement and assistance of the American Pharmaceutical Association, the specialized facets of pharmacy very correctly developed their organizations in order to exchange ideas and information within their respective areas.

Coordination and Professional Communication

While there were attempts, from time to time, to bring about a coordinated effort between the American Pharmaceutical Association and these organizations, the pace of the times did not produce sufficient impetus.

But the last two decades in health developments have moved so fast that we're now forced to face up to the question: Have we kept pace with modern times?

The answer is no.

Perhaps the problem has been one mainly of uncoordinated communications among the various specialized interests in pharmacy. There's been no physical focal point — no common basis of identification from an organizational standpoint. All too often, when pharmacy has been faced with the kind of problems posed by uninformed or misinformed legislators and the lay public, there has been an immediate trumpeting—a gnashing of teeth — and an eventual lapse into traumatic shock. The trumpeting has usually been accompanied by a rush to writing letters to editors, legislators, and virtually anyone else who will listen — but there has been little coodination.

A good example of what I mean by lack of coordination is the story that came to light just the other day of a prominent hospital which had received a shipment of refrigerators which were to be installed on two different floors. The refrigerators, however, were of the 220 volt, three-pronged-plug type. This meant that the receptacles on each floor had to be completely changed to meet the requirements of the plugs.

As you all know, hospitals are so compartmentalized that each floor is an entity unto itself — each with its own supervisor.

This hospital was no exception. The upshot was that each supervisor, instead of coordinating with each other, contacted separate individuals on the hospital administrative staff. There was a chaotic scurrying to get electricians in to make the changes. In the hubbub that followed, two separate electrical firms were contacted — each not knowing that the other had been hired. But the supervisors and the two administrative staffers relaxed — each assured in his own mind that the situation was being handled.

Came the next dawn and an inspection of the electrical outlets, it was found that one contractor had come in and changed all the plugs on the refrigerators to two-pronged types. And, so the hospital was right back where it started from.

Don't misunderstand me. I'm not proposing a weakening of the organizations of the special interests within pharmacy. But when problems face pharmacy, as a whole, we'll move nowhere if we seek to confine our efforts to our own specialized area. Our position in the last twenty years has been similar to the careless, talkative golfer who sliced a ball into the rough by talking when he should have been paying attention to the job at hand and working at it.

So let's stop talking — and start working. Let's throw in a new ball — correct our swing — and hit away.

Is Pharmacy a "Complete" Profession?

Simply nailing the word "profession" onto the term describing the work of more than 115,000 people in this country doesn't automatically give their activities the stature they need and deserve. The word "profession" presupposes at least three things: First, special academic training; next, an enforceable code of professional practice; and finally, complete voluntary participation of those bearing the title of the profession.

Let's see where pharmacy comes out in these requirements.

Our acedemic system is firmly established and continuing to develop on a basis comparable to the other medical disciplines. Although improvement is needed, we do have a code of professional practice.

But when it comes to complete voluntary participation, the profession is found woefully lacking. What then must we do to meet the demands of the times — to try to catch up?

Let me offer this three-point approach:

1. There must be an immediate campaign to bring all pharmacists into membership in their national professional society (American Pharmaceutical Association) as well as into the organization representing their specialized interests.

2. There must be developed a coordinated communications system so that the abilities and potential we have individually can produce the maximum results for the whole of pharmacy.

3. Groundwork must be laid for an accepted physical focal point for pharmacy, such as the American Institute of Pharmacy.

Let's take these one at a time.

The American College of Apothecaries, for example, has no desire to bring every pharmacist into its organization, obviously because not every pharmacist would qualify for membership. However, if the nucleus of leadership in pharmacy, whom you represent, only fights for completeness in its own ranks, it certainly will not serve the ultimate needs for completeness in the profession as a whole.

This, then, becomes the first major challenge. While simultaneously wearing your American College of Apothecaries and American Pharmaceutical Association hats you must recognize the need for bringing into the American Pharmaceutical Association those pharmacists from the ranks who may not necessarily be eligible for the American College of Apothecaries. You who are the missionaries for professionalism are best able to put across the concept of personal professional responsibility.

Today, you and your colleagues who are members of the American Pharmaceutical Association are paying the freight for the many freeloaders who are reaping the profits of your work. These freeloaders not only receive the benefits of your efforts but dimish the prestige of the profession by reneging on their responsibilities. They must be made to see the necessity for sharing in the responsibility for advancing the cause of the profession they have chosen to follow. If everyone in this room today were to convert three freeloaders to three members between now and the coming annual American Pharmaceutical Association convention in August, we would be that much farther along toward our goal of becoming a complete profession.

Next comes the need for a more coordinated system of communications among the various specialized interests within pharmacy. Today, the public and the legislative bodies of our nation are confused, they don't know whom to listen to — who is really the spokesman for pharmacy as a whole as in other professions. Moreover, our own colleagues have fallen into the rut of seeing no farther than their own individual area of interest. What I'm proposing is not simply greater power for the American Pharmaceutical Association. There must be representative opinion—there must be room for dissent. But we should not become so individualized that dissent deteriorates into noise and no action. If what

we do and say is to be truly meaningful, we must coordinate our efforts so that pharmacy can be seen as a profession of specialized interests, each equal to the other but serving under one flag in the public interest.

Finally, there is an imperative need for a physical focal point for pharmacy. There's nothing at all new in this plea. It was pointed out in the presidential address of Dr. Robert Swain to the 1934 Annual Convention, the day prior to the dedication of the American Institute of Pharmacy.

He said, in substance "A magnificant plant has been provided, and is now ready for the best possible use. Every group, devoted to the professional advancement of pharmacy, should center its activities here. These organizations would immediately find themselves more closely in touch with national thought. They would become, in every sense of the word, the national authorities in their respective fields."

Dr. Swain also noted in his address at the dedication of the Institute, and perhaps prophetically: "There is a vast work to be done within our own ranks. There are those who have wandered off into strange lands, and are bowing down to strange gods. There are those who would tear down rather than build up. There are those who scoff at professional ideals, and who deny the existence of high professional principles . . .

"We need to feel," he said, "what one great soul must have felt when he said that 'Every calling is great that is greatly pursued.' Let us resolve that this edifice (the American Institute of Pharmacy) shall really be our image."

It is our hope that all of pharmacy's national organizations will soon center their staff activities in the expanded American Institute of Pharmacy.

The three areas I've just discussed:

1. Greater concurrent membership.
2. The need for coordinated communications.
3. A physical focal point for pharmacy

- - and ever so briefly - - are those which I believe are the most fundamental today, those to which we must direct our immediate attention.

(Continued on Page 408)

OUR SECOND HALF-CENTURY

druggists know the importance of personal and professional liability coverage

Public liability—both personal and professional—is a phase of your store operation that should have proper and sound insurance coverage. Otherwise, you might be burdened with a costly and even disastrous financial loss.

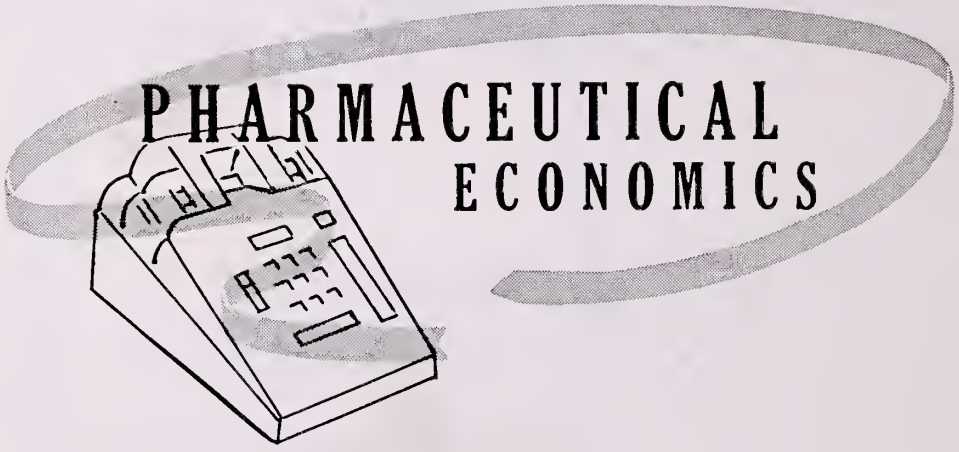
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PUBLIC ATTITUDES TOWARD PRESCRIPTION COSTS AND THE DRUG INDUSTRY*

Foreword

The following report of public knowledge and attitudes toward the pharmaceutical industry is based on a national survey conducted by the National Opinion Research Center of the University of Chicago under a grant from the Health Information Foundation. Although conducted during 1955 your editor believes that the information is not only of interest but of great value to the retail pharmacist in his understanding of the public knowledge and attitudes toward the pharmaceutical industry. The reader will note that this report clearly indicates a lack of public understanding of the accomplishments of the profession of pharmacy. It is believed by many in the profession that there is a community of interests with retailer, wholesaler and manufacturer which makes public understanding or criticism at any level of the profession of equal concern to all.

This report is a part of an over-all survey initiated by the Health Information Foundation with the specific objective of determining how public knowledge of the use of health facilities and public attitudes, both critical and complimentary, may explain the wide variation in the use of such services by various segments of the population.

This report is based on 2,163 personal interviews conducted during June, July and August, 1955. The persons interviewed were selected by probability sampling methods, and may be regarded as a representative cross-section of the non-institutionalized United States health population.

The interview itself was a comprehensive one, averaging between two and three hours in length. Its purpose was to obtain a rounded picture of people's knowledge, attitudes, experiences and beliefs with respect to health and illness and to a broad range of medical personnel and facilities: physicians, hospitals, pharmacists, dentists, voluntary health insurance, public health facilities, etc. Actually, only about one-eighth of the interview dealt specifically with drugs and pharmaceuticals, and this area was treated in the broad context of health services generally. In consequence, the material reported here represents only a small portion of the complete data which will ultimately be available

* A report by the National Opinion Research Center of the University of Chicago. October 1955.

and which will inevitable shed added light on the interpretation of the findings.

In the course of the interviews with members of the general public, repondents were asked to name their regular doctor, and also the drug store which usually fills their prescriptions. From the names of physicians and druggists mentioned in response to these questions, supplementary samples of doctors and pharmacists were also selected for interview.

PUBLIC ATTITUDES TOWARD PRESCRIPTION COSTS

When asked to characterize the costs of medical care, in general, 27% of a national cross-section of the adult population describe them as "much too high." Thirty-five percent say the costs of medical care are "somewhat high," and another 35% believe they are "about right." The remaining 3% have no opinion.

To aid the interpretation of this finding, however, the public was also confronted with three other types of costs — food prices generally, clothing prices generally, and repair charges (TV, auto repair, etc.) — and asked the same question regarding these.

As shown in Table 1, it is apparent that medical costs receive much less criticism than food costs or repair charges, and even somewhat fewer complaints than clothing prices.

TABLE 1

"Now I have a couple of questions about the cost of living. For example, do you feel that (each item below) are much too high, somewhat high, or about where they should be?"

	Much Too High	Somewhat High	About Right	Don't Know
Food prices, generally	40%	42	17	1=100
Clothing prices, generally	27%	41	30	2
Repair charges, (TV, auto repair, etc.)	45%	28	18	9
The cost of medical care, in general	26%	35	35	4

Within the general area of medical care, however, it is apparent that prescription costs, along with hospital charges, rank relatively high as a cause of complaint. Table 2 indicates, doctor and dentist fees are much more frequently judged to be "about where they should be."

Confirmatory evidence on both of our main findings comes from partial tabulations of interviews obtained from a national cross-section of practicing physicians. The majority of these doctors say that "hardly any" of their patients ever complain to them about the costs of medical care in general, but when asked "What particular phase of medical care seems to get most of the complaints you do hear?", hospital charges and drug costs (together with surgeon's fees and diagnostic charges) are most frequently mentioned.

TABLE 2

"Well, under medical care, would you say that doctor fees, generally, are much too high, somewhat high, or about where they should be? (Repeat for each item below)"

	Much Too High	Somewhat High	About Right	Don't Know
Doctor fees generally	16%	33	48	3 = 100
Hospital charges	39%	30	22	9
Dentists' fees	24%	31	36	9
Cost of prescriptions at drug stores	38%	28	26	8

But neither medical costs in general, nor prescription costs in particular, seem to be singled out for criticism by any substantial segment of the public. Consistently, the critics of these items are much more likely to complain also about food prices, doctor fees, repair charges and other elements of the cost of living.

Table 3 shows vividly how reactions to prescription costs seem to reflect an over-all sensitivity, or lack of sensitivity, to prices in general.

The first part of the table breaks the public into seven groups, varying in their degree of criticism of food, clothing and repair prices. The "O" group does not complain about any of these other prices, and it may be seen that only 14% of these people voice criticisms of drug costs. As we go up the scale, among people who are critical of these other costs, criticisms of drug costs go up at the same time. The most critical group of all (Group 6), who complain that food, clothing and repair costs are all much too high, produces a substantial majority who claim that the costs of prescriptions are much too high as well.

The second part of the table shows the same pattern when people are grouped according to their criticisms of other elements of medical costs — doctor bills, dentist fees and hospital charges. Again, those who are uncritical of these other costs scarcely ever criticize drug prices. But among the group who feel that all these other medical costs are much too high, 83% also complain about drug prices.

Moreover, a detailed analysis of the data reveals that criticisms of drug prices are not concentrated among any particular sub-group of the population — the younger, the less well educated, persons residing in particular areas of the country, etc. Rather, the critics are found in fairly equal numbers in virtually all population groups.

TABLE 3

	Percent Saying Drug Costs Are Much Too High
I. Attitudes toward food, clothing and repair costs	
Group 0 (no criticism)	14%
Group 1	19
Group 2	28
Group 3	33
Group 4	39
Group 5	55
Group 6 (highly critical of all)	62
II. Attitudes toward doctor fees, dentist fees, and hospital charges	
Group 0 (no criticism)	12%
Group 1	26
Group 2	32
Group 3	37
Group 4	50
Group 5	60
Group 6 (highly critical of all)	83

The best educated segment of the population, for example, is almost as likely to complain about prescription prices as the least educated are. The low-income groups are no more critical than the upper income groups. There are no significant differences in the level of complaints between large metropolitan areas and rural parts of the country.

One might suppose that people who had actually purchased expensive drugs would be very much inclined to complain about their costs, while people who never had occasion to fill such prescriptions would be much less critical. Or one might suppose that people who regularly take a prescribed medicine would be much more critical. Such differences do exist, but their magnitude is far less than those linked with general price-consciousness, as shown in Table 3 above.

Table 4 shows some of the evidence that no particular population group is either overwhemingly critical of prescription costs, or is generally satisfied with them.

One of the survey questions asked the 53% of the public who said they had purchased "wonder drugs" by prescription: "Did any of these drugs cost you quite a bit more, or quite a bit less, than you expected they would?"

Almost half of the purchases (47%) admitted that the drugs had cost more than they expected, while only 6% said they had cost

TABLE 4

	Percent Saying Drug Costs Are Much Too High
Attended College	37%
High school only	36
Grammar school only	40
Less than $3,000 income	38%
$3,000—$4,999	39
$5,000 and over	37
Large metropolitan areas	36%
Small metropolitan areas	39
Urban counties	37
Rural counties	39
Have purchased "wonder drugs" by prescription	41%
Never bought any "wonder drugs"	34
Regularly take some prescribed medicine	44%
Take no medicine regularly	36

less than expected and the remainder (47%) either said they had no prior expectation of the cost or that the costs were about what they expected.

Again, it might be supposed that those who were unpleasantly surprised by the high price would be much more likely to categorize the price of prescriptions as "much too high." The tendency is clearly apparent, as shown in Table 5, but again the differences are much smaller than those revealed in Table 3.

TABLE 5

	Percent Saying Drug Costs Are Much Too High
"Wonder drugs" cost quite a bit more than expected	51%
Cost about what expected, or no prior expectation	35
Cost quite a bit less than expected	23

Perhaps one reason that criticisms of drug prices are not a great deal more frequent than they are, lies in the fact that the overwhelming majority of those who have bought and used these expensive drugs express complete satisfaction with them.

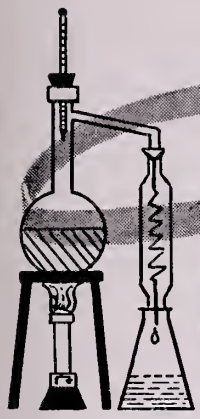
Of all purchasers, no less than 79% say they were "entirely satisfied," while only 21% mention "anything about any of these drugs that you were not too satisfied with." About two-thirds of the less satisfied group referred to allergic reactions (primarily to penicillin and sulfa), while only 3% of the entire cross-section reported that the drug proved ineffective.

In summary, we may say that . . .

Medical costs in general come in for less public criticism than such other elements of the cost of living as food prices, service charges or even clothing prices.

Within the category of medical costs, drug prices and hospital charges are the

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Advances In Drug Research

A NEW LOOK AT BIOFLAVONOIDS*

"And why a new look?" you may ask.

Because the bioflavonoids have a great deal to do with capillary bed. And the capillary bed has a great deal to do.

The cardiovascular system is commonly thought of as a remarkable network of arterial and venous plumbing through which the stream of life is pumped by the heart. But the primary purpose of the circulation is to transfer materials to and from the body's cells. This is accomplished in the capillary bed, which in an adult is woven of 60,000 miles of minute blood vessels of cobweb delicacy. The microscopic capillaries, hollow tubes so tiny that 1,500 of them side by side would scarcely measure an inch, are interlaced throughout the body in communicating networks of fantastic intricacy. No cell of the body is more than one two-hundredth of an inch distant from a capillary. Cells obtain nutrients from the blood and dispose of their wastes by means of the smallest division of the vascular system, the microcirculation.

Until quite recent years the microcirculation was virtually inaccessible to meaningful research. Newer scientific tools have begun to give some glimpses of infinitesimal mechanisms of the microcirculation, and better understanding of their profound importance to human bealth. The capillary walls, though nearly as thin as a soap-bubble film, are multi-layered structures of great complexity. Breaks or defects in the walls permit blood to seep through, with impairment of normal function of the capillary.

Like all living structures, capillary wall are subject to breakdown and repair, and essential materials for reconstruction must be available. The processes and materials involved are not completely understood. But it has long been known that Vitamin C is essential for integrity of the capillaries. Severe deficiency of Vitamin C, if uncorrected, results in uncontrollable bleeding and the red death of acute scurvy. Some members of a large family of chemical compounds known as bioflavonoids also appear to be of value in strengthening and maintaining the capillary walls.

In 1936, Albert Szent-Gyorgyi, who isolated Vitamin C, obtained from orange peels a concentrated substance which he called citrin and tentatively classified as Vitamin P. Further work raised doubts that the material was a true vitamin and this description was abandoned. By 1949 it was obvious that a great many different but related compounds

* Another review article on a subject of current interest designed for the practicing pharmacist-Ed.

were involved, and the term "flavonoid" came into use as a general label for the group. Later, when studies revealed striking differences in the solubility and activity of different compounds, "bioflavonoid" was adopted as a term for those which showed activity in the body.

Patient, long-term study of these compounds, fortunately, has continued. Clinical experience and differentiation of compounds of varied therapeutic activity have advanced so greatly that a new look at bioflavonoids is overdue. New research has shown that at least one bioflavonoid compound has proved to be of value in saving the lives of some of the newly born and the nearly born, and in other conditions in which an underlying, often obsecure and unsuspected condition of capillary fragility is involved.

Mysteries of Microcirculation

Ten thousand capillary cell walls stacked on top of each other would make a pile one inch high. The capillary wall is thinner than the finest tissue paper. Yet this gossamer fabric is exceedingly complex — rather like a living masonry wall which furnishes its own building bricks, continually replaces the cement that holds the bricks together, and uses complicated facing materials. The "bore" of the hollow capillary is so fine that red cells, having an average diameter of two to four one hundred thousandths of an inch, often have to twist and squirm their way through, and a single drop of blood takes about thirty minutes to pass a given point in the capillary.

Much new knowledge of the capillary wall derives from basic research by Benjamin W. Zweifach of the department of biology, New York University. The basic framework is a single layer of endothelial cells, fitted together like irregular flagstones. The cells are held together by the "mortar" of intercellular cement, which they continuously secrete. The outer wall has a sheath, running parallel with the capillary, of connective tissue and adherent fibrils which are condensations of the ground substance of connective tissue. The inner surface of the wall is lined with very thin adherent material which plugs most of the large holes in the intercellular cement and reduces the permeability of the wall.

In essence, the capillary wall is a living structure with millions of pores, which act as a selective sieve, permitting some molecules to pass to and from the cells but excluding others — as long as the capillary wall is intact. Factors that impair capillary integrity are poorly understood, but the consequences are visible to the microscope in the laboratory: swelling and loosening of the intercellular cement, loss of elasticity of the endothelial cells. The result may be that the pores enlarge, increase permeability of the wall, and permit the escape of molecules which should be contained. At a later stage the weakened wall may become abnormally fragile and susceptible to ruptures, with leakage of blood.

Either escape of molecules which should not escape, or leakage of whole blood, disturbs normal distribution of fluids and nutrition of tissues in the affected areas. Since capillary disorders arise at submicroscopic levels and do not commonly cause spectacular symptoms, the importance of the health of the minute blood vessels to general health is easily overlooked except in those cases so obvious and so serious they are brought to clinical attention.

Here, in infinitesimal areas of the microcirculation, the role of agents which may help to overcome abnormal capillary permeability or fragility is undergoing new scientific evaluation. The usefulness of certain active bioflavonoids in these respects has been clarified and confirmed by recent studies, nearly a quarter of a century after the discovery of "Vitamin P."

Varieties of Bioflavonoids

A hard, whitish substance accumulates on the pressing surfaces of orange squeezers which are constantly used and infrequently cleaned. This whitish deposit from citrus peel is a crude mixture of many flavonoids. In pure form, many flavonoids are vivid yellow in color — the name comes from the Latin word for yellow — but others are white.

Chemical investigators have isolated from such crude mixtures a large number of compounds which bear individual chemical names such as hesperidin, rutin, naringin, esculin, quercetin and others. Citrus fruits are a natural dietary source of bioflavonoids to some degree, although the compounds are largely in the peel or "rag" little of which is

consumed. There are great differences in physical and chemical properties of different bioflavonoids. Some are active if injected but are quite inactive in oral dosage because of very low solubility in water. Hesperidin, rutin, and naringin, for instance, are relatively insoluble in water, and comparatively inactive therapeutically if given in oral forms. Such compounds may, however, be accompanied by traces of flavonoids which are orally active.

One bioflavonoid compound, CVP, developed for medical use by U. S. Vitamin and Pharmaceutical Corp., New York, combines Vitamin C with active **water-soluble** bioflavonoid factors of whole citrus bioflavonoid complex obtained by processing methods which leave the product relatively low in hesperidin, naringin, and other comparatively insoluble and inactive flavonoids found in citrus fruits. Recent research confirms the high activity of water-soluble CVP, not only as a "capillary strengthener" and antihemorrhagic compound in certain disease states, but as an anti-inflammatory agent.

It is well known that cortisone and ACTH, hormones commonly used in rheumatoid arthritis, give relief of inflammatory symptoms. Dr. Valy Menkin, director of the department of experimental pathology of Temple University School of Medicine, Philadelphia, recently reported the results of a study of the anti-inflammatory capacity of the water-soluble bioflavonoid citrus extract used in CVP, but without ascorbic acid. The bioflavonoids appeared "to possess the anti-inflammatory capacity of cortisone and ACTH" and to exhibit a "larger range of inhibitory potentialities than either."

Dr. Menkin injected rabbits with an irritating substance known to cause excessive capillary permeability, and with a dye which enabled vessel leakage to be measured. Then the irritating substance was combined with cortisone in some injections, in others with ACTH or the bioflavonoid compound, for comparison. He found that "capillary permeability . . . is significantly diminished" when CVP's bioflavonoids are added to the "permeability trigger" substance, whether the substance is acid or alkaline. Cortisone was effective only in correcting capillary permeability induced by alkaline substances, ACTH only when the trigger substance was acid.

Dr. Menkin reports that the special bioflavonoids compound provided "an almost complete suppression of local increased capillary permeability" — the microcirculatory condition in which fluids and blood cells escape through tissue walls into surrounding tissues and take part in producing inflammation, pain, redness, and swelling, commonly seen in injury and disease. He comments on the possible clinical significance of his study, mentions the sometimes serious side effects of long-continued "arthritis-hormone" therapy, and concludes that "the clinical usefulness of the water-soluble bioflavonoids as an anti-inflammatory agent deserves further exploration."

Infant Salvage

The blood volume of a pregnant woman increases as gestation advances. The frequent occurrence of hemorrhoids and varicose veins during pregnancy is clear evidence of incompetent adjustment of veins to new circulatory burdens. Less conspicous, and indeed invisible, are concurrent adjustments in the microcirculation where the essential transfers of maternal nutrition take place. The newly formed capillary system of the fetus is highly susceptible to envirnomental influences. The communicating tissues of gestation — the placenta and the dicidua (a membranous lining of the uterus) — are highly vascular, richly interlaced with microscopic blood vessels. The classic sign of impending abortion, or miscarriage, is uterine bleeding.

Innumerable factors, many of them unknown, underlie threatened abortions. Some miscarriages are inevitable and in fact kindly if the lost fetus is malformed or otherwise defective. Yet many threatened abortions of potentially normal infants can be averted by skilled medical care employing a variety of supportive therapies.

Unfolding knowledge of the microcirculation has recently focused much obstetrical attention on small blood vessels which appear to play a major role in abortion. All the pathological evidence, in addition to the clinical evidence of bleeding, seems to indicate that increased capillary permeability and fragility of decidua or other gestational structures play a predominant if not primary role in many miscarriages that are not otherwise inevitable.

The use of water-soluble bioflavonoids with anticapillary permeability activity is rational in such instances, but proof of practical value must rest upon clinical experience. A series of several hundred cases threatened with abortion, treated in several New Jersey hospitals and reported in 1959 by Dr. William H. Ainslie, achieved "a significantly improved rate of fetal salvage" — living, healthy infants — among women who received water-soluble bioflavonoids as part of treatment to prevent threatened loss of their unborn babies.

Dr. Ainslie compared two annual series of threatened-abortion pregnancies. Treatment was the same except that one series received water-soluble bioflavonoids and the other did not.

Of 543 women given the water-soluble bioflavonoids, 6.4 per cent aborted, compared to a miscarriage rate of 9.9 per cent in 304 women who did not receive the therapy. About 7 per cent of patients aborted so soon that little could be done for them, and no improvement was noted in the spontaneous abortion rate of the small percentage of women who were in their first pregnancies. Benefits of bioflavonoid therapy were most notable among women whose symptoms of uterine bleeding signaled impending miscarriage. Of this critically threatened group, 26.7 per cent of those who received the water-soluble bioflavonoids aborted, compared to 46.9 per cent of those who were not given bioflavonoids.

"Habitual aborters," women who have had two or more previous miscarriages, are especially likely to miscarry in subsequent pregnancies, according to Dr. Finis A. Taylor of Memphis, Tenn. In a small series of 19 habitual aborters treated with water-soluble bioflavonoids, by Dr. Taylor, he reported that 14 had uneventful deliveries resulting in births of normal, healthy infants.

Similar clinical evidence is afforded by 25 cases of habitual and threatened abortion treated with bioflavonoids, reported by Drs. Harry A. Pearse and J. David Trisler of the department of obstetrics and gynecology, Crittenton General Hospital, Detroit, Mich. Of these 25 women, 19 delivered living babies; the only treatment received was citrus bioflavonoids and a vitamin-mineral supplement.

"Up to now," Pearse and Trisler comment, "very little attention has been paid by obstetricians and gynecologists to the capillary syndrome . . . In our clinical studies it was revealed that a normal delivery of 76 per cent of patients with two or more previous spontaneous abortions was achieved following the use of bioflavonoids, provided administration was started at an early stage of pregnancy.

"In all cases so treated, the normal delivery was preceded by a complete arrest of bleeding, which in previous abortions was clearly manifested. It appears that the prenatal death rate may be considerably decreased by restoration of capillary integrity and that the bioflavonoids offer a useful therapeutic agent."

The Lethal Crossover

The blood of mother and fetus does not normally intermix. Yet such interchange incontestably occurs and is exhibited most lethally in the erythroblastotic baby — better known as an "Rh baby." The condition involves complex immunization mechanisms and production of antibodies, identical in principle with mechanisms which combat viruses and other foreign invaders of the bloodstream. An oversimplified explanation: Human blood contains a certain factor and is called Rh positive, or it does not contain it and is Rh negative. Introduction of Rh-positive blood of a fetus into the Rh-negative bloodstream of the mother results in production of Rh anti-bodies in her blood. When these cross back into the fetus, they attack and destroy the fetal red cells.

If this potentially lethal crossover occurs, the infant may die prenatally or be born with an erythroblastatic condition that may be relatively mild, or the anemia may be so severe as to require exchange transfusion. When the condition occurs, management by accepted medical methods is imperative, but new attention is directed toward underlying causes with the hope that preventive or ameliorative measures may prove helpful. Predominant is the fact that although fetal blood is "not supposed to" cross over into the maternal circulation, it indisputably does so in some instances. It is logical to suppose that this transfer takes place through minute breaks in the placental capillary system and

that any substance, such as bioflavonoids, which counters capillary permeability and fragility should reduce or prevent it.

A small study of 6 women who had previously given birth to erythroblastotic infants was reported in 1956 by Dr. Warren M. Jacobs of the department of obstetrics and gynecology, Baylor University College of Medicine, Houston, Texas. The patients were treated with CVP during the course of a subsequent pregnancy. Three bore completely normal babies; the other three were delivered of infants who were only mildly affected — contrary to the usual expectation of increasingly severe damage in successive pregnancies. In the opinion of the attending physicians, all six infants were healthier and less affected than previous infants of the same mothers. This early study of a very few cases led Dr. Jacobs to conclude, cautiously, that "there is evidence that the bioflavonoid compounds do have some value in the prevention or reduction in severity of erythroblastosis fetalis."

The most recent report by Dr. Jacobs gives results of more extended comparative studies of two groups of women who had given birth to one or more erythroblastotic infants and were seen during succeding pregnancies. Management was identical except that 32 women received bioflavonoid capsules, from early pregnancy until delivery, and 71 women did not. The 71 "non-bioflavonoid" women delivered 22 surviving infants, or 30.9 per cent. The 32 who received bioflavonoid produced 24 surviving infants, a "success rate" of 75 per cent.

"Off hand," Dr. Jacobs comments, "these results would seem striking but it must be admitted that the bioflavonoid group is small by comparision and that larger numbers of patients must be treated before definite conclusions can be reached."

Incidental Indication

A slight perineal incision, known as episiotomy, is a frequent obstetrical procedure to ease the passage of an infant's head during delivery, prevent muscular tears in the mother and expedite her restoration to normalcy. The immediate effect, however, may be seven to ten days of pain and discomfort while the swollen, engorged incision heals. A new painless technique of episiotomy, used in 416 consecutive patients, is described by Dr. Wallace B. Shute of the Ottawa Civic Hospital, Ottawa, Canada.

"Immediately after removal of sutures," Dr. Shute reports, "the patient is encouraged to test the effect by sitting with her full weight on a hard seat and by walking. The change in her manner from frank skepticism to startled belief and her subsequent complete freedom from pain are pleasant rewards."

The pain-lessening procedure includes a new rapid suture technique, and tablets of bioflavonoids with Vitamin K, beginning during labor and continuing through the first three postpartum days. "This serves the dual purpose of attempting to reduce blood loss during delivery and diminishing wound engorgement during the painful first few postpartum days . . . The oral use of a bioflavonoid preparation acts immediately and often dramatically to curb excessive tissue engorgement."

Similar bioflavonoid benefits were noted by Dr. Taylor in his series of bioflavonoid-treated habitual aborters. Patients on bioflavonoid capsules had "no hematoma in the episiotomy and much less portpartum bleeding," although these conditions had been severe in preceding deliveries.

As Old as One's Capillaries

The diversity of illnesses and disabilities concerning which investigative studies of water-soluble bioflavonoids have been reported — various inflammatory and infectious states, "little strokes," vitreous opacities and retinal hemorrhages, post-surgical trauma, idiopathic menorrhagia (excessive menstrual flow) and innumerable bleeding diatheses — might well seem bewildering and indeed irrational, were it not for the fact that the capillary bed is the master gatekeeper of molecular exchanges essential to the welfare of every tissue cell. Abnormal permeability and fragility of the capillary system may work remote and subtle injury on the entire constellation of the body's organ systems, and continued study of mechanisms of microcirculation may be expected to resolve mysteries of profound importance to human health.

As is virtually all areas of modern scientific advance, whether it be satellite rockets or the insulin-like activity of a new synthetic sub-

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PRESIDENT'S PAGE

Rx



Fellow Pharmacists:

We are now beginning another year in South Dakota Pharmaceutical activities in which we will be faced with many past and new problems. Your officers will be guided in the solution of these problems by each pharmacist in this state through his opinions and suggestion.

The Executive Committee, Board Members, and other committees formed, in order to promote intelligent guidance, must be alert to the trends in the drug field and the consensus of the independent druggists opinions in regard to conditions in pharmacy.

Ideas from members, periodicals they have read, or suggestions from city organizations, will be duly requested from all members to be sent to our state office. These will be studied to procure opinions, facts, and conclusions by your officers of the South Dakota Pharmaceutical Association. A close tie-in of all members will strengthen our organization and assist those members elected to guide our group to make intelligent decisions that concern all pharmacists.

It is my wish for this coming year that all problems can be dealt with immediately as they arise and not held until our convention meets each year.

During my term as your President I shall endeavor to work with you individually and your other officers towards a better profession.

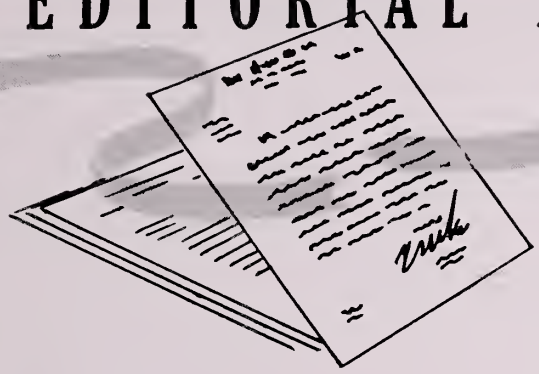
It is a great honor to be your president this coming year.

Sincerely,

Albert H. Zarecky

President

EDITORIAL PAGE



TOMORROW'S PHARMACISTS

June, the month of graduation is now over. Once again a class of young people have graduated into the ranks of practicing pharmacists. We would add our congratulations and sincere good wishes for their future.

Graduation has caused us to take a sincere look again at the prospects for future enrollments in pharmacy. On a national scale we know that, while enrollments at most institutions are on the increase, enrollments in pharmacy are remaining approximately the same or in many cases are decreased. Here in South Dakota and the surrounding states we also face a shortage in the replacement of professional help in pharmacy.

A recent meeting of the National Advisory Commission of Careers in Pharmacy brought into sharp focus the need for consolidated recruitment efforts in promoting pharmacy careers to young people. Activated by the American Pharmaceutical Association to assist in centralized recruitment, the Commission, at an all day meeting in Washington, D. C. pointed out:

- local pharmacists must take an increasing interest in the young people of their communities and take every opportunity to point out the advantage of a pharmacy career;
- effective programs must also be arranged by state and local pharmaceutical organizations to reach additional young people in the local communities;
- frequent meetings must be arranged with high school counselors and science teachers to present them with up-to-date facts about pharmacy;
- use of publicity material and films must be broadened to get as much accurate information as possible into the hands of junior high, high school and college students;
- gifted young students must be provided with on-the-job experience in whatever branch of pharmacy their interest lies;
- student projects in pharmacy should be encouraged not only at national science fairs, but also in those on the local and regional level.

Only by concentrated effort on the part of all areas of pharmacy, the commission agreed, can recruitment deficiencies be erased. Then pharmacy can take its proper place beside other health fields as a leader in marshalling able young people into its ranks.

ANNUAL REPORT OF THE PHARMACEUTICAL EDITOR*

Gentlemen:

This report covers the activities of the editor of the Pharmacy section of the South Dakota Journal of Medicine and Pharmacy for the year July 1, 1959 to June 30, 1960.

This concludes the seventh year that I have been associated with you in this position.

During the past year a total of 191 pages was published. This is an increase of 27 pages over last year's publication. In addition to the regular sections, which are either written by or revised by your editor, 25 papers were reviewed for publication. Four of these papers were submitted by persons registered as pharmacists in South Dakota.

This year I included more material of an editorial nature. A total of 23 pages of editorial comment were printed. Although I know that everyone will not agree with what is written, and I certainly would not want that, I sincerely hope that the comments have been thought-provoking and stimulating.

I received an avalanche of news concerning the Kefauver investigation during the last few months. The major publications having national coverage would be more up to date on these matters due to the time lag between receipt and publications. Therefore, only material of an editorial nature and one or two papers of a general nature on this important matter was included.

I appreciate the cooperation received from the officers of the South Dakota Pharmaceutical Association and I earnestly solicit your comments concering the material which is published.

Respectfully submitted,

Harold S. Bailey, Ph.D.

Pharmaceutical Editor

* Presented to the seventy-fourth Annual Convention, South Dakota State Pharmaceutical Association, June 20, 1960.

PHARMACY PAPER—

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I've presented the challenge. I can assure you that an expanded staff of skilled specialists at the American Pharmaceutical Association headquarters is ready, able and willing to carry out whatever policies are developed, to further the advancement of the profession of pharmacy.

It will take time and effort — yours, mine and that of all the members of the profession. Pharmacy's fight for status as a profession and as integral part of the American health team has not been an easy one. Having achieved this status, let's not forfeit it by standing guilty of the charge of non-support at the moment of our greatest challenge and opportunity.

ADVANCES IN DRUG RESEARCH—

(Continued from Page 405)

stance, knowledge of large consequence derives from knowledge of the infinitestimal. The familiar saying that "a man is as old as his arteries" may require revision to "a man is only as healthy as his capillaries."

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PHARMACEUTICAL ECONOMICS—

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most common areas of complaint.

Complaints about drug prices reflect to some extent the public's actual experience with drug purchases, but to an even greater extent they reflect a generalized sensitivity to all prices.

Criticisms of drug prices are characteristic of all elements of the population, but in no single group do they reach an extremely high level.

There is little evidence that drug prices have been singled out is a cause of complaint by the public in general or by any important segment of it. Those who are most critical of drug prices are equally critical of other prices.

PHARMACY STUDENTS RECEIVE AWARDS

Five outstanding pharmacy students have been presented awards at South Dakota State College.

Rodney Nickander, Madison, Minnesota, and Robert Rotschafer, Worthington, Minnesota, were presented awards sponsored by Merck and Co., New Jersey pharmaceutical manufacturers.

Neil Rarmlo, Hendricks, Minn., received an award sponsored by Bristol Laboratories of New York.

A Rexall trophy sponsored by Rexall Co., of Los Angeles, was presented to Richard Manthei, Albert Lea, Minnesota.

Donald Lord, Milroy, Minneosta, received a gold medal award sponsored by Lehn and Fink Co., New York, New York.

In addition to these awards 18 pharmacy students were recognized for superior and high scholarship at a recent Honors Convocation on the State College campus. Senior students recognized for superior scholarship were: Beverly Jo Allen, Worthington, Minnesota; Rodney C. Nickander, Madison, Minnesota; and Robert D. Rotschafer, Worthington, Minnesota. Students in the junior, sophomore and freshman classes recognized for high scholarship were: Vernon L. Henrich, Le Mars, Iowa; Edward M. Mahlum, Mondovie, Wisconsin; Sharon R. Mix, Brookings, Robert J. Reutzel, Fairmont, Minnesota; Excellda J. Watke, Alvord, Iowa; Kenneth W. Bray, Aberdeen; Patricia M. Hauck, Rapid City; Ronald E. Mansmith, Fulda, Minnesota; Robert W. Wik, Norbeck; Harvey J. Eernisse, Leota, Minnesota; Jean I. Engelhardt, Hartford; Lola R. Schuman, Stratford; Marsha L. Teig, Highmore; Warren N. Verdeck, Marshall, Minnesota, and Marlene M. Wallace, Britton.

THE MONTH IN WASHINGTON

An omnibus bill approved by the House Ways and Means Committee contains two provisions of major importance to physicians — Social Security coverage for doctors and a Federal-state program to provide health care for older persons with low incomes.

About 150,000 self-employed physicians would be covered by Social Security on the same basis as lawyers, dentists and other self-employed professional people now are covered. Becoming effective for taxable years ending on Dec. 31, 1960, or June 30, 1961, self-employed physicians would be required to pay a Social Security tax of 4½ per cent of the first $4,800 of income. Physicians also would be subject to the automatic increases in the Social Security tax in future years.

Medical and dental interns would be covered for the first time also.

Rep. Wilbur Mills (D., Ark.), Chairman of the Ways and Means Committee, was the main architect of the health program for "medically indigent" aged. It was designed to provide a broad range of hospital, medical and nursing services for persons 65 years of age and older who are able financially to take care of their ordinary needs but not large medical expenses.

It would be up to each state to decide whether it participates in the program. The extent of participation — the number of benefits offered to older persons—also would be at the option of individual states.

The states would determine the eligibility of older persons to receive benefits under the program. However, the legislation laid down a general framework for eligibility: persons 65 years and older, whose income and resources — taking into account their other living requirements — are insufficient to meet the cost of their medical care.

The program couldn't become effective until July 1, 1961. Before putting such a program into effect, a state would have to submit to the Federal government a plan meeting the general requirements outlined in the legislation.

Rx PHARMACY News

RHO CHI INITIATES FOUR

Four junior pharmacy students were initiated into Tau Chapter of the Rho Chi national pharmaceutical honor society recently. Minimum requirements for membership include junior standing in pharmacy and a grade point average of B. Those initiated were Vernon L. Henrich, Le Mars, Iowa; Robert J. Reutzel, Fairmont, Minnesota; Maurice V. Tobin, Sturgis; and Excellda J. Watke, Alvord, Iowa.

STORE MANAGEMENT SEMINAR HELD AT BROOKINGS

A retail drug store management seminar was recently held by McKesson and Robbins executives at Brookings, South Dakota. The program was held for the graduating pharmacy seniors. Similar seminars are conducted throughout the United States each year by McKesson executives.

Discussion included such varied topics as: The distribution factor in United States economy; Store events and proper ad layout; A review of retailer-wholesaler teamwork; Drug store layout and design; Merchandising and public relations.

UNDERGRADUATE RESEARCH GRANT AWARDED

Two Division of Pharmacy students have been selected for undergraduate research participation grants this summer.

Each will receive $600 for the summer work and will have the opportunity to work with scientists on research projects. They will work with staff members in the Department of Pharmacy and the Department of Pharmaceutical Chemistry of the Pharmacy Division at State College.

The winners are Donald Mahannah, Brookings, and James Sheets, Elgin, Nebr. Both have finished the junior year in the pharmacy curriculum and are entering the senior year in their course work.

Mahannah will work with Dr. Norval E. Webb on a study of a preparation of a stable form of stannous fluoride for topical application. Sheets will assist Dr. Harold Bailey in studying the effect of norethandrolone on the production of dental caries. Both projects are supported by the Dental-Pharmacy Research Program of the Pharmacy Division in cooperation with the South Dakota State Dental Association, the South Dakota State Pharmaceutical Association, and the United States Public Health Service. In addition to the undergraduate students, graduate research assistants Rodney Nickander of Madison, Minnesota and Dennis Hoogland of Brookings will assist in these studies.



SCROTAL MASSES

By
Dwayne E. Howard, M.D. and
Wayland K. Hicks, M.D.
Sioux City, Iowa

The correct diagnosis of any mass of the scrotum is necessary before the proper treatment may be instituted. Since most of the diseases of the scrotum and its contents may be divided into inflammatory lesions and neoplasms, a careful history and physical examination with intelligent interpretation of the findings are essential. After the history is obtained with special reference as to time of onset, the presence of trauma or pain, systemic illness with fever, progression of the swelling — whether slow or rapid — and the type of treatment already received, may contribute significantly in making the diagnosis. The local examination certainly is of extreme importance and should begin by palpating the side of the scrotum where the lesion is located. A comparison then with the opposite side of the scrotum should be made. Careful palpation referrable to the detailed anatomy of the cord structures, the epididymis and the testicle is a must in the differential diagnosis of the various intra-scrotal masses.

A simple inspection may give the clue as to whether inflammation is present. A very important part of the local physical examination is the translucency test. This should be done by making the intra-scrotal swelling tense by grasping the neck of the scrotum be-

tween the thumb and two fingers while the other hand holds a small flash light to the distal side of the swelling. If the scrotal mass transilluminates the diagnosis is probably that of a hydrocele, epididymal cyst or spermatocele. If it does not transilluminate, the diagnosis is probably an acute inflammatory lesion or malignancy. If one is not able to get above the swelling in the scrotum the lesion is probably an indirect hernia.[1]

In considering the diagnosis of intra-scrotal swellings, epididymitis-acute and chronic, hydrocele, spermatocele, epididymal cysts, torsion, hematocele, tuberculous spididymitis, epididymal orchitis, mumps orchitis, and trauma have to be differentiated from tumors of the testicle, the epididymis or the cord structures. Scrotal hernia must also be considered. It must also be remembered that a hydrocele is quite frequently present in association with testicular tumor.

The inflammatory lesions inside of the scrotum, present evidence of acuteness usually by the presence of pain, swelling, and redness. The infection may reach the interior of the scrotum by direct extension from nearby inflammatory lesions or through the blood stream. Most often an infection of the testicle itself is the result of spread of the inflammatory lesion from the epididymis. Pyogenic infections, gonorrhea, tuberculosis, mumps, syphillis, typhoid fever and actinomycosis all may produce a mass in the scrotum. The pyogenic type of infections are usually most acute. A patient with epididymitis or epididymal orchitis is usually acutely ill. Most of the time there is a short history of progressive swelling of the contents of one side or rarely both sides of the scrotum. Considerable pain is usually present and it often extends up along the spermatic cord. The treatment consists of chemotherapy, or antibiotics in full dosage for several days, along with bed rest, support of the scrotum and careful attention to the systemic manifestations of the disease. Occasionally surgery in the form of drainage of an abscess or possible orchiectamy is necessary. In the case of mumps orchitis, which rarely occurs before puberty, the patient, and the parents if indicated, should be warned that atrophy of the testicle occus in 1/3 to 1/2 of the cases of mumps orchitis.[3] The treatment may include convalesence serum, diethylstilbestrol and in some instances cortisone. The use of parenzyme has also been suggested.

The most common lesion found in the scrotum is that of a hydrocele, which is an accumulation of fluid within the tunica vaginalis. It may be acute or of a very chronic nature. The acute type may be the result of trauma, inflammation and at times from testicular neoplasms. The chronic hydrocele seems to be of an ideopathic nature and has a very slow accumulation of straw colored fluid within the tunica vaginalis. The congenital type, more often seen in children, connects with the abdominal cavity, because there has been a failure of the processes-vaginalis to close. Occasionally hydroceles of the cord structures occur where the processes-vaginalis has closed above and below the lesion. The diagnosis of this condition is made by palpation, the fact that it transilluminates readily and by the presence of a straw colored fluid on aspiration. The treatment of hydrocele may be that of simple drainage with or without the injection of a sclerosing solution such as quinine and urethane into the tunica vaginalis. In most instances they are best treated by surgical excision of the hydrocele sac.

Epididymal cysts and spermatoceles are similar lesions palpated separate and usually above the testicle. They transilluminate fairly well, and if aspirated, a cloudy solution is obtained. The presence of spermatozoa in the fluid makes a diagnosis of a spermatocele. Again, the treatment of these lesion is observation, or if they are enlarging and producing symptoms, aspiration and injection may be used, but surgical excision is usually the treatment of choice. An epididymectomy is recommended as a part of the treatment of these lesions.

Torsion of the testicle or more accurately described as torsion of the spermatic cord may occur at any age, but usually of playground or high school age. This condition is always accompanied by sudden severe pain in the testicle. There is local swelling of the scrotal contents and scrotal skin in the course of a few hours. It is exceedingly important that this condition be recognized within the first few hours. It has been said that if the condition is not corrected within four hours that the testes and epididymis will undergo

hemorrhagic gangrene with subsequent atrophy. The differential diagnosis in this condition between orchitis, epididymitis and hernia is sometimes difficult. Once the diagnosis of torsion is made or strongly suspected, immediate operation is indicated. The surgery consists of opening the scrotum and untwisting the cord, followed by suturing the testicle to its scrotal wall so that torsion will not occur again. It should be stressed that the opposite testicle should also be sutured in place at the time of the emergency operation. If the testicle is dark and the circulation does not return within a few minutes after the cord structures are untwisted, an orchiectomy is necessary.

Neoplasms of the testes, epididymis and spermatic cord may be divided into benign and malignant lesions, but the benign tumors constitute a very small percentage of the neoplasms. Adenomas, fibromas, hemangiomas, angiomas, benign teratomas, interstitial cell tumors and others are so rare that they will not be considered here except to say that a pre-operative differential diagnosis is impossible and at the time of surgery their local removal should be on the same basis as the malignant testicular, epididymal and cord neoplasms.

Of all the malignant lesions encountered in male, less than 1% are tumors of the testicle.[2] Most testicular tumors are found in the young adult, usually around the age of 30 years, however, they have been found in infants and elderly gentlemen. It has been reported that testicuuar tumors are more prevalent in the undescended testicle or in the testicle which has been brought into the scrotum by surgery. This is a debatable topic and highly over emphasized. The cause of testicular tumors I am sure is as unknown as the general knowledge of the cause of cancer. In many instances of testicular malignancy the history of trauma is present. In most instances it is felt that the trauma has actually called the attention to the patient of an already existing tumor. Testicular neoplasms vary greatly in their histological features and the various types overlap considerably, but a simplified classification which is usuable in the type of treatment advised and the prognosis given is the following:

1. Seminoma: This is probably the most common type of testicular tumor and represents about 1/3 of the testicular neoplasms seen. The clinical differentiation of the type of testicular tumor present is practically never possible prior to surgery, except in the case where a positive AZ test is obtained. In this situation a chorio-epithelioma, the most malignant type of testicular tumor, may be expected. Seminomas are homogenous, non-cystic tumor masses of almost any size. They are the least malignant of the various testicular neoplasms. They have the lowest mortality. The treatment consists of surgical removal of the testicle and cord structures with subsequent irradiation therapy of the regional nodes. The use of radical node dissection has been advocated by many urologists.
2. Embryonal carcinomas: These neoplasms constitute about 23% of testicular tumors. They are considerably more malignant than seminomas and consequently have a much poorer prognosis. They are in general much less radio sensitive. Radical lymph node dissection is recommended in an increased percentage of these cases.
3. Terato carcinomas: This type of testicular tumor represents about 1/3 of the testicular neoplasms. They may vary from mostly teratoma like characteristics to most carcinomatous characteristics. In general they are considered more malignant than the embryonal carcinomas. They too are significantly radio sensitive and have a very poor prognosis. Again, the treatment often includes radical lymph node dissection.
4. Chorio-epitheliomas: These tumors of the testicle are rather soft and hemorrhagic. They grow very rapidly locally and metastasize quickly and widely, and thus have a very poor prognosis. Fortunately less than 1% of testicular tumors are of this type. Treatment consists of radical surgery both of the local lesion and the lymph nodes.

I would like to stress that any painless swelling of the testes with or without associated hydrocele should be considered as suspicious of neoplasm. It should be remem-

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VOLUNTARY HEALTH INSURANCE – A REPORT TO THE PRACTICING PHYSICIAN

Kenneth Barrows

Des Moines, Iowa

Presented at the 79th Annual Meeting of the South Dakota State Medical Association, May 17, 1960 in Aberdeen.

It's a pleasure to appear before you on behalf of the Health Insurance Council. It's an added pleasure to be the bearer of personal greetings from Dr. E. F. Van Epps, President of the Iowa State Medical Society, and his fellow officers.

The Health Insurance Council, as you know, is a Federation of eight trade associations in the insurance industry, whose member companies account for 90% of the health insurance written in this country by private carriers.

The Council's primary function is that of providing a mechanism through which the insurance industry can work with the nation's doctors and hospitals toward the attainment of common objectives. Its work is carried on by insurance executives, drawn from the ranks of the member companies, with the assistance of staff provided by the constituent associations.

The Council does not engage in legislative activity. That function is reserved to the constituent associations. Conscious though I am of this restraint, I find it hard to confine my remarks to workaday problems when uppermost in the minds of all of us is the

threat to the private practice of medicine, the voluntary hospital and voluntary health insurance posed by the current agitation for federal intervention in the field of health care for the aged.

There are now before Congress a number of bills dealing with the subject. The administration has offered one. Every presidential aspirant has either proposed or endorsed one. Each day brings new developments. It's too early to predict what, if any, legislation will emerge, but it's not too early to draw some conclusions, and these conclusions are important because they serve as guide lines for the appraisal of developments and for the defense of the free institutions in which we so firmly believe.

The first, of course, and a pretty obvious one, is that health care for the aged is an attractive political issue. It serves the purpose of the political opportunist because of its emotional properties. It serves the purpose of groups who seek socialized medicine because it provides an entering wedge.

Health care for the aged is a matter of concern to a wide segment of the voting population. There are now 15.7 million citizens age 65 and over. These citizens have sons, daughters, grandsons, granddaughters, brothers, sisters, nephews and nieces concerned, in some degree, with their welfare. When you talk about health care for the aged you're talking about something that is of special interest to 30 or 40 million voters.

For these reasons, health care for the aged will continue as a political issue, whatever action this Congress takes. To those of us who hope to see the subject dealt with wisely, and in ways consistent with the American tradition, this means continued and informed vigilance. It means, too, prepartion for extension of the issue to health care for the entire population.

Let's take a look at some of the bills before Congress. Those proposed by Representative Forand, Representative Mills and President Eisenhower provide a good basis for study, because a comparison of their features brings out the basic problems. You're familiar with the details of these bills, so I'll stick to their distinguishing characteristics.

The Forand Bill provides hospital, nursing home and surgical care for the recipients of Social Security. Its proponents contend that there are many aged people who need medical care they're not getting because they can't afford it, and that something must be done to help them.

For the sake of discussion, let's assume there are many aged people who are not getting the medical care they need because they can't afford it. I think the proposition is open to challenge, but let's assume it anyway. Does the bill address itself to the need? It does not. It confers its benefits on 11.7 million senior citizens, those under Social Security, indiscriminately, rich and poor alike. With equal indiscrimination it completely ignores the 4 million senior citizens who are not under Social Security, within whose ranks the incidence of need is bound to be greater.

The proponents of the Forand Bill contend that Social Security provides the best facilities for spreading the cost of health care for the aged, for funding it over the working years of life. Again, for sake of discussion, let's assume what they say is right. Does it follow that the government must prescribe how the funds accumulated for medical care must be spent? Wouldn't it be enough to give the recipient the money, as part of his monthly check, and let him decide how to use it? Why declare him a ward of the state, incapable of deciding what suits his needs?

This is an important point, one that deserves some thought. None of us would seriously entertain the idea that the government should tell the senior citizen how to spend the money he has accumulated for food; for clothing and for housing. Is there any reason why the government should do it for medical care? Are his medical needs, and his notions about financing them, any less an individual matter after he has attained age 65 than they were before?

You, as doctors, know how widely the medical needs of people vary. I can assure you that their notions about financing these needs vary almost as much. That is demonstrated by their selection of voluntary health insurance coverage. We have, in this country, three classes of organizations providing health insurance coverage, insurance companies, Blue Cross-Blue Shield plans and independent plans. Each class differs from the

other. Each class offers a multiplicity of choices, both in amount and scope of coverage. Of the 127 million Americans now protected by voluntary health insurance, about 54% have chosen from the coverages offered by the insurance industry, 42% from those offered by Blue Cross-Blue Shield, and 4% from those offered by independent groups. The variety of plans involved is infinite.

The differences expressed by the American people in their purchase of voluntary health insurance are not frivolous. They stem from legitimate differences in circumstances and attitudes. A plan of coverage that suits one man perfectly may be quite illy suited to another. No one, however wise, can prescribe a single plan of health insurance that is best for everyone. This applies to coverage for those over 65 the same as it does to those under 65.

There might be some justification for the Forand Bill's approach if the nation's insurance companies, its Blue Cross-Blue Shield plans and independent plans did not make health insurance available to the senior citizen, but that is not the case. Of the 15.7 million people now 65 and over, an estimated 49% have some form of voluntary health insurance. The current rate of growth in coverage is greater in this age group than for the population as a whole. In 1952, one out of four people age 65 and over had health insurance. Now, one out of two does. The comparative figures for the population as a whole are six out of ten in 1952, against seven out of ten at present.

All of the components in the voluntary health insurance movement, the insurance industry, the Blue Cross-Blue Shield plans and the independent plans, are making coverage available to senior citizens. They're doing it in a number of ways. Not all people who have attained age 65 have abandoned active life. Many are still working, and are covered under group plans as active employees. Many group plans provide continued coverage for retired employees under the group policy, with a substantial portion of the cost borne by the employer. Many other group plans permit the retiring employee to continue his coverage, at his own expense, under an individual policy. One of the country's largest insurers recently extended this privilege to all employees insured under its group policies.

More than a hundred insurance companies offer special individual policies for the senior citizen. So do the majority of Blue Cross-Blue Shield plans. Some are sold on the mass enrollment basis, an adaption of group underwriting principles. Others are sold in the usual way. Many insurance companies and Blue Cross-Blue Shield plans now waive the age limits on their outstanding policies, and permit the continuance of coverage beyond the time originally stipulated. Some companies have brought out policies that become paid up at age 65 and continues for life. The number of insurers providing coverage for the senior citizen, and the methods employed to provide such coverage, are increasing rapidly.

Representative Mills' proposal follows the Forand pattern, but differs from the Forand Bill in two basic characteristics. It provides hospital coverage only, and gives the Social Security recipient the option of taking a cash increase in his monthly benefits, estimated at $5 or $6 a month, in lieu of hospital coverage.

The exclusion of surgical care carries some significance for the moment, but it is doubtful that it's of consequence in the long run. Those who espouse the Forand Bill are content to accept it, knowing that once the principle of providing health care for the aged under the Social Security Act has been established, it will not be difficult to broaden the scope of benefits, and add medical services.

Granting the Social Security recipient the option of taking cash or health insurance is something more difficult to evaluate. In theory, at least, the coverage is not compulsory. The recipient has the option of choosing what to do with the money ear marked for health care. Whether, in actual practice, this will constitute a true option is conjectural.

It wouldn't be too difficult for the federal government to alter the relative values of the insurance coverage it offers and the cash benefits to the point where the Social Security recipient had no real choice. It could do this by subsidizing the insurance coverage at the expense of the hospital, the tax payer, or both. For example, it could force the hospitals to provide care to those with govern-

ment insurance at less than actual cost, or it could treat the expense of administration as something separate, not to be charged to the cost of the benefits furnished.

To illustrate, if you've been following the Blue Cross rate hearings in the East, particularly New York and Pennsylvania, you'll recall that one of the problems is that the hospitals are required to treat public welfare patients at considerably less than cost, with the result that the deficit has to be passed on to other patients. It wouldn't be hard for the federal government to require the same thing for government patients by, say, attaching strings to Hill-Burton funds.

The sharp contrast comes when you compare the Forand Bill with the legislation proposed by President Eisenhower, through Secretary Flemming of the Department of Health Education and Welfare. They differ in practically every respect.

The Forand Bill provides benefits for every recipient of Social Security without regard to need. It does nothing for those not under Social Security. The administration bill provides benefits for everyone, whether under Social Security or not, whose annual income does not exceed $2,500 for an individual or $3,000 for a married couple. Under the Forand Bill, the entire cost is borne by the federal government, with funds raised through an increase in Social Security taxes. Under the administration proposal, the cost is shared by the federal government and the states on a 50-50 basis, with funds raised from general taxation, plus an annual $24 contribution from each participant.

The Forand Bill provides for hospital, nursing home and surgical care, with no deductibles or coinsurance. This type of coverage, which is known as basic or first dollar coverage in insurance parlance, provides maximum protection against the short term acute illness, but limited protection for the long term chronic illness. The administration bill, on the other hand, provides not only for hospital, nursing home and surgical care, but also for outpatient medical care, X-ray and laboratory services, drugs, private nursing and physiotherapy, subject to an annual deductible of $250 a year for the individual or $400 for a married couple, after which the plan pays 80% of the expenses incurred. This type of coverage, which is called major medical in insurance circles, provides maximum protection for the long term chronic illness, or the illness involving exceptionally heavy costs, but relatively little protection for the ordinary acute short term illness.

Incidentally, the administration proposal, unlike the others, includes public assistance recipients. They would be entitled to benefits without payment of the $24 fee. The state would pay, as it does now, the initial $250 of expenses under the regular public assistance program.

Under the Forand Bill, government coverage is compulsory. Under the administration proposal, the citizen may, if he prefers, purchase his coverage through a private insurer, and if the plan measures up to standards prescribed by the state in which he resides, the federal-state fund will contribute up to 50% of the cost, with a maximum of $60. Finally, the administration plan leaves to the states the choice of providing benefits through an agency of the state or through a private agency like an insurance company or a Blue Cross-Blue Shield plan.

If we had to choose from these proposals, there's not much question but that we'd choose President Eisenhower's. The Forand Bill has nothing to commend it, unless you're one of those who's seeking to establish the principle that the federal government has an obligation to provide health care for the private citizen. At least the President's proposal is oriented to need. Its scope is limited to people in the low income group. It minimizes the role of the federal government, the element of compulsion, and the impact on medical practice.

But do we have to make a choice? The proponents of all of these measures premise their case on the proposition that there are senior citizens who are going without medical care because they can't afford it. Although they urge this proposition frequently, they talk from impressions and not from facts. Before we embark on any legislation, we should endeavor to learn the truth. We should determine who are going without care, where they are, and what care they are lacking.

Our concern for the aged is no temporary thing. The 15.7 million senior citizens we have today will become 22 million by 1975.

It follows that our treatment of their special problems should not be symptomatic. It should be directed to the cause. We should seek long range solutions. If a substantial segment of the non-indigent population age 65 and over is without adequate resources to finance their medical needs, what have we done to spare our senior citizens of tomorrow the same unhappy lot? At the close of 1958, about 19 million people were covered by private pension plans, providing benefits over and above Social Security. Will current forms of savings like this assure tomorrow's senior citizen of the financial ability to provide for himself? What about encouraging private savings by tax reforms and like measures?

The health of our senior citizen is not simply a matter of money to pay the doctor bill. It's the sum total of many factors, a sense of purpose in life, companionship, housing, food, occupation and recreation. It's the product of his place in society. If we are serious in our concern for the senior citizen's health, we must consider all of the many factors involved, for they are inseparable. In my judgment, there is much study to be done before we embrace any approach through long range legislation.

Certainly, this is no time for the federal government to undertake any activities which are not of the most compelling nature. A primary, perhaps you could say the primary, function of our federal government is the national defense. Our nation and Russia, the mightiest nations the world has ever known, are locked in an ideological struggle. We are engaged in a cold war knowing that each of us is in a position to release, in a single bomb or two, more destructive force than the sum of that used throughout history. This is no time for diversion of the federal government's capacties. Moreover, in the light of the heavy financial burden our national defense efforts impose, this is no time to unnecessarily add to the load of the tax payer. Our tax structure has already reached the point where it threatens to stifle private initiative, and if we lose that, we lose one of our greatest assets.

Although we should avoid hasty action, taken without due regard to the facts and their causes, we should, at the same time, strive to maintain an open mind. We are in the midst of a technological explosion. We are entering a world of new dimensions. Things have happened so fast I doubt that many of us realize what's happened. We know that we're enjoying advances in electronics, chemicals and rugs, but I'm not so sure that we see them in perspective.

Perhaps the best single index, the best measurement for enabling us to visualize what is happening, is the speed of man's travel. I don't know how far back the history of man goes, but I suppose that 50 thousand years might be as good a guess as any. Throughout that entire time, until little more than 100 years ago, men could travel no faster than the horse, something like 30 miles an hour. He now travels at speeds exceeding 22 hundred miles an hour, 3 times the speed of sound. One hundred years ago New York was months away from California. Fifty years ago it was a week away. Today it's 3 or 4 hours.

These technological developments cannot help but work profound changes in our social and economic life. Within our own span, we've seen the strong shift toward specialization in our endeavors, with a consequent interdependence. Our own professions are an example. Nothing could be more interdependent than the private practice of medicine and voluntary health insurance. But, while we must be prepared for, and receptive to, the social and economic changes that are forthcoming, we should strive with all our might to preserve the human values taught by our nation's great faiths, the Christian and Jewish religions, and embodied in our legal traditions. To me, the essence of these values is the dignity of man.

In a report to the President of the United States, dated September 30, 1959, the Federal Council on Aging had this to say: "It is fundamental in a society of free and self-directed people that each member must seek to solve his own problems. His integrity and his dignity spring from his sense of independence and responsibility. And second only to his own responsibility is that of the family, the basic social unit in our culture. The problems beyond the capacity of the individual and his family, and the problems that can properly be shared to promote the general welfare, become the concern or organized society. When organized society steps in to

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TENDON INJURIES IN INFANCY AND CHILDHOOD

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*Paper presented at the Annual Meeting of the South Dakota Chapter of the American College of Surgeons, Huron, South Dakota, January 16, 1960.

Tendon injuries in infancy and children present fundamental differences from that of adults, particularly in the diagnosis, treatment and the after care. Failure in any of these areas results in a loss of function and failure of growth of the affected finger, a complication not seen in adult injuries.

The incidence of tendon injuries is highest in children of 3 years or under. In an injury accompanied by little or no bleeding from the wound, the possibility of a tendon injury is often not suspected until it is found the child cannot move a finger. Sharp objects and broken glass are frequent causes of tendon injury. Until the child reaches the age of 6 they are usually unable to cooperate in the pre-operative examination. One must, therefore, rely largely upon inspection of the hand. The posture of the relaxed hand in a young child will usually give a clue as to the continuity of the flexor tendons. (Figs. 1, 3, 5, 7). In the normal hand the fingers assume a semiflexed position which is absent, if the muscle balance between the flexor and extensor tendons is disturbed. Associated nerve injury is frequently suspected by the location of the wound, but actual exposure of the nerve is usually necessary for determination of the continuity of the nerve structures in

the recent injuries. In the old nerve injuries the atrophy of the hypothenar and intrinsic muscles in ulnar nerve injuries and of the thenar muscles in median nerve injuries, are diagnostic.

The operative technique differs little from that of the adult except in the size of the structures to be operated on. General anesthesia, a bloodless field, adequate exposure and fine instruments and a gentle technique are fundamental to obtaining a good result. The suture likewise must be fine material.

Whether a tendon should be repaired primarily or secondarily depends on several factors. In injuries over 4 hours tendon repair might well be deferred. Certainly no tendon repair should be done in any wound in which a thorough cleansing and debridement cannot be carried out. Antibiotics are no substitute for these fundamental procedures. Prophylactic tetanus antitioxin is given routinely after testing for sensitivity.

The prognosis in tendon repairs depends on the pre-operative condition of the finger. The most favorable group, according to Boyes,[2] are those fingers with supple joints, minimal scars and no major trophic changes. The scar group are those with hypertrophied scars of skin or deep scars limiting passive motion of the digits. The articular group includes those digits in which bone and joint injuries where passive motion at the interphalangeal joints are limited. The poor group includes digits with bilateral neurovascular lesions, extensive superficial or deep scarring and marked limitation of passive motion of the joints. The results are progressively poor in the latter three groups.

The post-operative care in younger individual presents many problems not present in the adult cooperative patient. Casts are the most useful method of protection of these fingers and must extend above the elbow with the elbow flexed in order to prevent these younger children from working out of them. A three to four week period if immobilization after tendon and nerve reconstruction is the same as followed in older patients. Change of cast and removal of sutures are best carried out under general anesthesia with a generous pre-operative barbiturate medication in order to prevent any undue struggling or stress being placed on operative site. Active motion is encouraged, but no formal physical therapy can be prescribed in this younger age group. Nevertheless, the joints of children do not tend to stiffen and recovery is usually quite satisfactory. For this meeting we are presenting 4 cases which illustrate certain fundamental points in the management of tendon injuries in children; no attempt is made to present a large series of cases or particularly good results.

CASE NO. 1

A white female, age 5, fell and cut her right thenar eminence on a Coke bottle. A week after injury it was noted that she could not flex the distal interphalangeal joint of the thumb. (Fig. 1) The patient underwent tendon suture followed by application of a cast for 3 weeks, the cast extending above the elbow. Pull-out wires were used and there was some difficulty in removing the wire which responded to rubber-band traction. The patient was last seen on November 28, 1959 at which time a normal range of flexion was present in the distal interphalangeal joint of the thumb. (Fig. 2).



Fig. 1. One week previously this 5 year old girl had suffered a laceration at the metacarpal phalangeal joint covering the long flexor of the thumb.



Fig. 2. Result in same case. No physiotherapy after secondary suture of the tendon.

COMMENT

This case illustrates the usual failure to recognize a tendon in a young child at the time of injury, the result which can be obtained with secondary suture of a tendon, and finally the absence of any need of physiotherapy in a young child.

CASE NO. II

A white female, age 8, was seen with an absence of flexion of the interphalangeal joint of the right thumb. Seven years previously she had cut her hand on glass and the tendon injury had not been recognized. An old scar was present over the thenar muscles, which in themselves seemed to function quite effectively. (Fig. 3) Patient was admitted to the hospital and underwent a tendon transplant, the sublimis tendon from the index finger being transplanted into the distal portion of the flexor pollicis longus muscle after isolation of the motor branches of the median nerve. Three weeks later on removal of the cast an excellent result was present. (Fig. 4).



Fig. 3. Seven years previously this 8 year old girl had suffered a laceration at the base of the thenar eminence covering the long flexor of the thumb, but not injuring the median nerve.



Fig. 4. Result following transplantation of the sublimis of the index finger into the distal tendon thumb, but not injuring the median nerve, segment. Children adopt themselves readily with transplanted muscles without much training.

COMMENT

After a period of 7 years the muscle belly of the flexor pollicis longus was undoubtedly so atrophic that satisfactory function could not be obtained by using this muscle combined with a tendon graft and a transplant is definitely indicated. These children adapt themselves to transplanted muscles very readily as shown in this child shortly after removal of the cast.

CASE NO. III

A white female, age 1½, was seen a month after she had suffered a laceration of the palm at which time she was unable to flex the middle finger of the right hand. (Fig. 5) A tendon repair was performed and the cast was removed at the end of 3 weeks. No physiotherapy was given the patient since she was too young to cooperate. She was seen at the age of 6 at which time she had a full range of motion in the affected finger. (Fig. 6) A herniation through the palmar fascia was noted in the palm of the hand. This was entirely asymptomatic.



Fig. 5. Infant age 1½ year old, with an old laceration of the middle finger tendons of the right hand.



Fig. 6. Result 4 years later, after tendon suture of flexor profundus. No special training or therapy. Children's joints do not become stiff if not traumatized.

COMMENTS

This case illustrates the spontaneous recovery which will occur in a child without any particular exercises or conscious effort on the part of the patient. Children's joints do not become stiff, if they have not been traumatized.

CASE NO. IV

A white male, age 5, was seen with a division of the flexor tendons of the left little finger. After debridement and cleansing, the skin was closed and no infection occurred. The laceration was over the proximal phalanx of the finger in "no man's land." (Fig. 7) Accordingly, a tendon graft was done 3 weeks after the injury using the sublimis tendon of the affected finger. An excellent result was obtained after immobilization of three weeks. (Fig. 8)



Fig. 7. Laceration of both flexor tendons in a white male, age 5, in "no man's land." Treated by primary cleansing of the skin and closure. Graft 3 weeks later.



Fig. 8. Results following tendon graft. Failure to restorefunction in this case would have resulted in a dwarfed finger.

COMMENTS

Failure to restore function in affected finger results in dwarfing of the finger. Because of this reason we feel it is advisable to do tendon grafts even in the little finger to restore function, although in an adult it has been recommended that results in the little finger do not warrant repair.

SUMMARY

Tendon injuries in children are different from those in adults in the diagnosis and treatment. Illustrative cases are presented of the principals of therapy in these cases.

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VOLUNTARY HEALTH INSURANCE — A REPORT TO THE PRACTICING PHYSICIAN—

(Continued from Page 418)

give the individual a hand, the measures-in-aid to be sought should be measured to preserve and protect his freedom and integrity. The maximum effectiveness of Federal efforts to aid in the solution of problems of older people depends on coordinated action with other organized elements of our society — not only the several levels of government, but also the local and national, private and voluntary organizations."

This, I belive, is a statement worth remembering. I'm sure that if we can stay within its framework, we can solve the special problems of the senior citizen in ways that are consistent with the American tradition.

In closing, let me thank you for the opportunity to be with you on this occasion, your 79th Annual Meeting. Let me also say that the South Dakota State Committee of the Health Insurance Council, under the able chairmanship of E. E. (Slim) Brewick, is both willing and anxious to work with your fine organization and the doctors throughout the state toward the attainment of our common goals.



ANOREXIA NERVOSA: DIAGNOSTIC ASPECTS*

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*Read at the meeting of the South Dakota State Medical Association, Aberdeen, South Dakota, May 14 to 17, 1960.

†The Mayo Foundation, Rochester, Minnesota, is a part of the Graduate School of the University of Minnesota.

What is anorexia nervosa? Gull was the first to recognize it as a condition resulting from starvation. At present the term is applied to the symptom complex of mental, physical, and physiologic changes exhibited by emaciated individuals who starve because of anorexia or aversion to food which, in turn, is the result of psychic and emotional disturbances. It is a completely reversible condition, although unmistakable physiologic changes occur during development and during recovery.

The symptoms and findings in any one case of marked inanition as a result of starvation from functional disturbances are good examples of those of any other case in this group.

This condition affects adolescent girls and young adult women. It occurs less frequently among women more than 30 years of age and rarely among men. There is also a subgroup of adolescents in which the initial loss of weight is not of psychogenic origin. This subgroup consists of girls who were somewhat overweight when they were 13 to 15 years of age. They later become acutely conscious of the fact that they are overweight or they

are cruelly reminded of this by others. As a result of becoming or being made conscious of their overweight, they curtail their intake of food drastically. However, when they become satisfied with the amount of weight lost, they find it impossible to eat sufficient food to maintain their weight at the level desired. Loss of weight may become progressive thereafter.

No sharp diagnostic line separates simple malnutrition from anorexia nervosa, and therefore, the minimal requirements for making the diagnosis of the latter are to a certain extent only a matter of personal opinion. In severe cases, there is no difficulty in recognizing the fact that the patient's condition is unmistakably serious. The time required for the development of the inanition and the extent to which the inanition may reach depend on the degree of inadequacy of the caloric intake.

In arriving at a diagnosis of anorexia nervosa, it seems necessary to give careful consideration to at least two organic diseases, namely anterior-pituitary insufficiency and ileitis. The distinction from anterior-pituitary insufficiency can be made by considering the usual lack of cachexia in anterior-pituitary insufficiency, the comparative youth of the patients, the high degree of activity displayed by many patients with anorexia nervosa which would not be possible in the presence of organic disease, the growth of hair (lanugo) in cases of anorexia, the psychic features attendant on the onset of anorexia and finally by the reversibility of the condition on treatment.

Ileitis of long standing in emaciated patients who poorly describe the symptoms of that disease, however, has caused difficulty in the exclusion of anorexia nervosa in a number of instances. In a number of instances, the gastrointestinal symptoms, physical findings and results of laboratory tests for a patient with ileitis have been very similar to those commonly observed for patients with anorexia nervosa, and at times, roentgenographic studies of the small bowel have been necessary to settle the diagnostic problem.

Characteristic Symptoms

The characteristic features of anorexia nervosa can best be described by dividing them into three groups: the psychic changes, the somatic changes, and the laboratory abnormalities.

In brief, the psychic changes are not unlike the emotional reactions of the spoiled child. Subterfuges are resorted to which are indicative of loss of pride and morale. Unreasonable excuses and explanations are given by patients to account for their behavior and their inability to eat. These patients lack spontaneity, tire quickly in their conversation and answer questions only incompletely.

Because of the patients' mental fatigue, reasoning with them is difficult and as a result, any satisfactory conversation with them is brief. Although they may have a large number of psychoneurotic complaints, they do not show any concern over their emaciated appearance or offer an explanation for their marked loss of weight. They evade a discussion of the true situation. Apathy, reticence, paucity of ideas and negativistic tendencies are common.

The somatic symptoms consist of evidence of marked loss of weight with the appearance of age, pallor without anemia, hairiness of the arms and legs, dryness of the hair and skin, intolerance to cold with cold hands and feet, low blood pressure and a slow pulse rate. Almost all the female patients suffering from anorexia nervosa give a history of amenorrhea. When a state of severe starvation is present, amenorrhea invariably has occurred. The finding of an atrophic type of uterus is common, particularly in young nulliparous women when inanition is marked. The patients complain of various indefinite gastrointestinal disturbances, the most consistent being constipation. In spite of unmistakable evidence of dietary incompetence, there is a lack of recognizable avitaminosis. On admission there may or may not be edema of the ankles. Sighing dyspnea is a frequent occurrence. No particular evidence of caries of the teeth described elsewhere has been observed in patients seen in the clinic. Loss of strength in young individuals is not nearly as marked as one might suspect on comparison with the change in the appearance and the degree of emaciation. In older patients, however, weakness may be an outstanding symptom. In general these patients

are exceptionally free of infections that terminate in debilitating disease, and complicating disease is unusual in them.

The laboratory abnormalities may be confusing at times. The factors responsible for this confusion are (1) a depletion of body fluids, and (2) a potential physiologic defect which determines the formation of edema. The retention of sodium and water is secondary to a slowing of the excretion of these two substances by the kidney and is present in severely starved individuals only. Depletion of body fluids, when present, affects the values for the blood constituents by means of hemoconcentration which may be present at the time of admission. When hemoconcentration is present on admission, it is usually associated with the potential physiologic defect in the metabolism of sodium chloride which does not become evident until the sodium intake has been increased as a result of dietary treatment. Rarely hemoconcentration might be present in the absence of the potential physiologic defect.

Comment

In some of the cases in which a diagnosis of anorexia nervosa was made at the clinic, diagnoses of disturbances of various glands of internal secretion had been made previously. In still other cases diagnoses of Simmonds' cachexia or of other organic diseases had been made.

In some instances anorexia nervosa had been suspected but this diagnosis had been discarded because the patient was felt not to respond favorably to an increased intake of food. It must be remembered that a daily caloric intake well above the calculated daily caloric requirement for that particular patient must be maintained for several months before the patient regains his normal weight. Also it should be kept in mind that in certain instances during an increased caloric intake there may be an initial gain of 15 pounds in a period of 2 weeks. This may be followed by a varying length of time during which no weight is gained. However, after this period the patient, without any increase of caloric intake, will begin to gain again. The initial gain of 15 pounds is due to retention of sodium and water and not to a gain in flesh.

The over-all picture from the laboratory point of view is that of severe, but reversible, insufficiency of the anterior lobe of the pituitary body. It is this reversibility which in the last analysis distinguishes the clinical picture of anorexia nervosa from that of pituitary necrosis, pituitary tumor and allied intracranial lesions.

SCROTAL MASSES—

(Continued from Page 413)

is not possible to be certain of the diagnosis pre-operatively or even atoperation of testicular neoplasm. A biopsy of the testicle suspected of being malignant is done with extreme care with every precaution possible used to prevent spread of tumor cells which may lead to local recurrence or distant metasses. In surgery if a testicular tumor is strongly suspected, the entire testicle and generous segment of spermatic cord should be removed, and the definitive study for malignancy be made in the pathological laboratory.

CONCLUSION: The primary object of this paper is to stress the importance of early, and accurate diagnosis of lesions of the scrotum and its contents. Benign conditions, as well as malignant lesions, need prompt diagnosis so that proper treatment may be started. The cure of testicular malignancies by our present methods of surgery and irradiation, can only be accomplished after the prompt investigation of all intra-scrotal swellings by complete history, a careful physical examination with transillumination, and the proper attitude that any scrotal swelling should be regarded as potentially malignant, until proven otherwise.

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By: Dwayne E. Howard, M.D.

PRESIDENT'S PAGE



Our new headquarters building is now a reality. The staff has now moved in and is operating from the new address, 711 North Lake Avenue, Sioux Falls. I have not yet had the pleasure of seeing the completed building — in fact the last time I saw it, it had just walls and a roof.

In reflecting on the project, one cannot help but feel that the construction of the building was a good move. I wonder how many physicians in the state realize that we are the smallest medical society in the country to have its own headquarters building, a fact which should make all of our members justly proud.

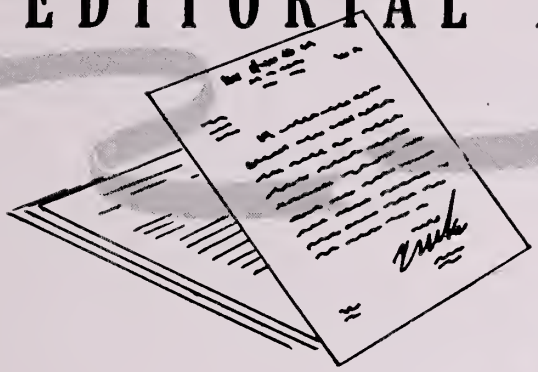
The method of financing the project was, I believe, a wise choice. By obtaining loans from our members, the responsibility of paying for the building is placed on those who are getting and will in the future get the benefit of the structure, because future income to the State Association will be used to pay off the indebtedness.

There is one thing about the project which does, however, disappoint one to a considerable degree. It is the failure of many of our members to participate in the financing of our building. Response to requests for loans has been fairly good, but should be much better. May I urge all of you who have not loaned funds for this purpose to reconsider the proposition and participate if at all possible? A loan is your vote of confidence in the future of our State Association. Let us hear from you!

Fraternally,

C. Rodney, Stoltz, M.D.

EDITORIAL PAGE



THE NEW BUILDING

There has been some conversation amongst members about the new headquarters building just recently opened in Sioux Falls. Some have felt that the creation of a headquarters is one of the greatest steps forward in the history of the Association, others say the Association is getting too big for its britches.

In actual fact, the answer lies in between these two poles of thought. The new building is the result of an orderly expansion of the operation of the Association.

When the executive office was first opened in 1946, it had one room in the First National Bank in Sioux Falls. Staff consisted of the executive-secretary and his secretary. Since that time, the accomplishment of new programs expanded the offices into four rooms with a staff of seven and then into the new building.

For the first time, the Association has an environment that can live up to the prestige of the people it represents. The building is not ornate; it is comfortable, attractive and utilitarian. Furthermore it is located where its own parking space is available, there are no stairs to climb, and the view is terrific.

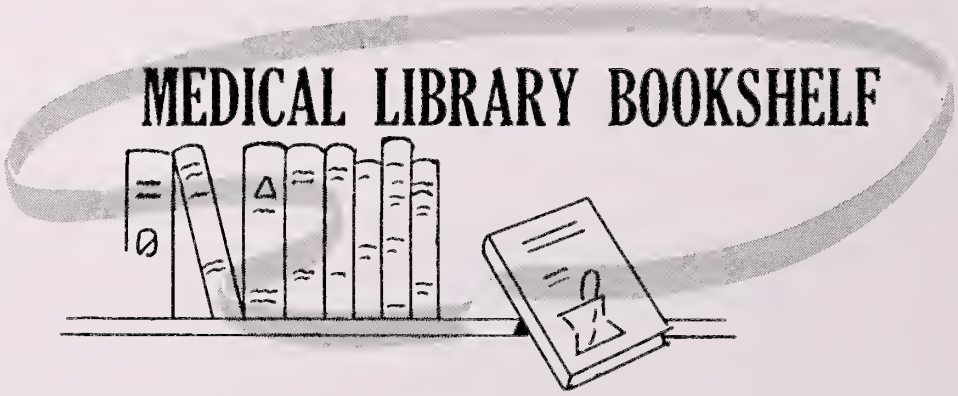
We feel that the building is a monument to the medical profession of South Dakota, not to any single person who might have given the idea impetus. It will be with South Dakota, as the monument, long after we have now passed the scene.



TOP BRASS? Certainly could be. Scene is from a breakfast of State Medical Association past presidents during last annual meeting in Aberdeen. From left to right: Drs. John L. Calene, Aberdeen; A. P. Peeke, Volga; M. M. Morrissey, Pierre; R. A. Buchanan, Huron; D. A. Gregory, Milbank; L. J. Pankow, Sioux Falls; and A. W. Spiry, Mobridge.

SUPPLEMENTARY ROSTER LIST

L. R. Akland, M.D.	France
S. W. Allen, M.D.	Watertown
R. Berzins, M.D.	Bowdle
R. Czajkowskyj, M.D.	Veblen
W. H. Fritz, M.D.	Mitchell
N. J. Hastetter, M.D.	Edgemont
C. F. Johnson, M.D.	Yankton
B. F. King, M.D.	Aberdeen
R. K. Kramer, M.D.	Yankton
W. L. Meyer, M.D.	Sanator
A. Petres, M.D.	Salem
A. Stephans, M.D.	Hartford
D. W. Weatherill, M.D.	Mitchell
R. A. Weber, M.D.	Mitchell
J. A. Zanka, M.D.	Rapid City



ANATOMY IN ART

In compliment of the Medical Library Association which held its annual meeting in Kansas City from May 16-20th, an exhibition entitled "Anatomy in Art" was presented at the Nelson Gallery of Art, in collaboration with the Clendenning Library of the University of Kansas Medical Center. An attractive illustrated catalog was issued describing the exhibit. Public museums, private collectors and art dealers loaned paintings, drawings and art objects of great value for the exhibit. Various exhibition areas were arranged in adjoining rooms of the Gallery according to categories of artistic expression including Idealisms; Realism; Romanticism; Expressionism; Dynamism; Fashion, Abstraction and Disinterest as they have affected man's vision of his bodily image. The following descriptions of the various categories are taken from the catalog of the exhibit.

Idealism: This is linked to man's strivings for perfection of form. Out of a composite of many bodies, the sculptor or painter assembles the ideal, striving for anatomical perfection based on a thorough knowledge of human proportion. The Greek sculptor Polyclutos embodied a classical ideal of bodily beauty in his Doryphorus, and in 500-460 BC, the Etruscan Warrior God glorified the human form as being God-like. During the Renaissance proportional drawings of the body were delineated with new scientific exactitude transmuting the study of anatomy into idealism.

Realism: The Realist artist approaches the human figure as fact and is interested in forming style on the basis of objective observation. Rodin's study of the thinker and Renoir's Study for the Bathers are examples of this period.

Expressionism: The artist expresses inner or subjective emotions or sensations such as fear, instability or repression and uses the world of appearances to delve into those feelings often disquieting in nature lurking below the surface of our thoughts. In Lucas Cranach's Last Judgment (16th century), the German master uses anatomy to express all the grotesque punishments we associate with Life in Hell. El Greco's Saint John the Baptist is elongated to convey a pervading sense of religious ecstasy. Anatomy can be used expressionistically to awe or disquiet us or even to inspire us religiously.

Dynamism: This implies bodily movement. Through the portrayal of action artists have sought to infuse anatomy with the energy and ebullience in order to embody the active aspect of human life. The Dancing Satyr from the 3rd century BC who thumps the ground in crude abandon and the Hellinistic terra cotta Greek and Barbarian Boxers affirm that the classical age possessed a dynamic as well as an ideal sense of form.

Andrien de Vries bronze Hercules, Deianeira, and Nessus is a contorted spiral of limbs and torsos. In our own century the famous Nude Descending the Staircase by Marcel Duchamp presents a simultaneous view of atonomic movement; anatomy fragmented in accordance with modern concepts of time and space.

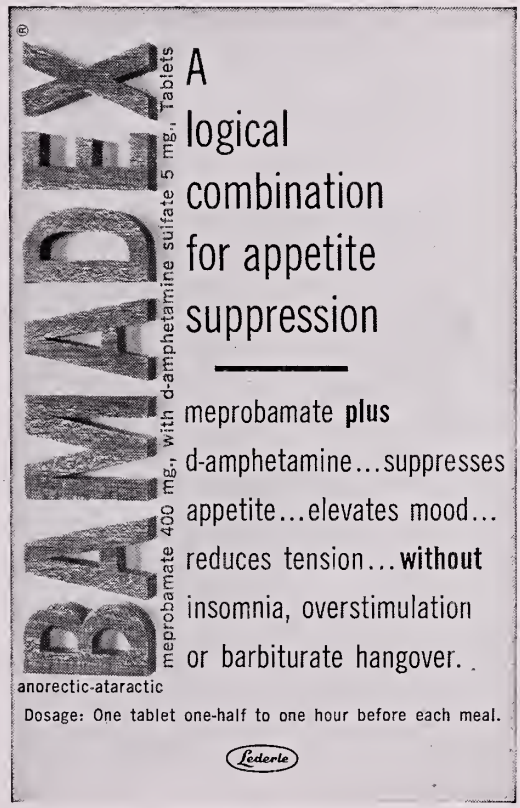
Romanticism: The artist uses anatomy as a vehicle for his imagination, for asserting sentiment or even for evoking literary associations. A Romantic approach to anatomy generally creates a poetic overtone; a recollection of the long ago and far away. Nostalgia is the theme for Joseph Wright's oil study of Democritus Studying Anatomy (1734-1797) Romanticism may conjure a vision of the historic past as in Chasseriau's drawing Scene de Guerne Antique (1819-1956). It can apply poetic license to copying of past art as Delacroix's Crucifixion after Reuben's Coup de Lance.

Fashion: Modish interpretation of the body. A fashionable approach to the female nude stresses elegance of limb and grace of posture. In the later 16th century the mannerist style arose in Italy. The statuette Venus After the Bath by Giovanni de Balogna strikes the mean in elegance and refinement of the period.

Abstraction: An abstract approach to anatomy denotes a definite artistic interest in plane surfaces, simplicity and even, to some extent, abbreviation of anatomical forms. In this exhibit, abstraction was regarded as deliberate artistic intent. The pre-Greek Cydladic is organized in terms of abstract surfaces and flattened forms; its abstraction is esthetic in effect, not merely the result of lack of craftsmanship. Brancusis' Torso shows how effectively a sensitive sculptur can treat the human form with reference to machine age techniques yet arrive at a total work of art, elegant and self-contained. In the abstract the artist recombines body parts as he sees fit. In Marc Chagall's Temptation, the artist used a cubist fragmentation of form to paint a witty modern parody of Eve tempting Adam with the forbidden fruit. Abstraction denotes a supremacy of form over content. The Egyptians in figure sculpture took the body without rearranging its parts and simplified the form to the point of impersonality, both in relief and in the round.

Disinterest in Anatomy: This implies indifference to anatomical Correctness and often a reduction of human body to a symbolic image from which all sense of reality, as we are accustomed to read it, is absent. The anonymous Dutch master (12th century) in the painted panel of Christ in Limbo had little interest in anatomical form in rendering a world of disembodied spirits. Christ appears as a ghostly presence. Henri Matisse has at times departed from the model and rendered the female nude in an arbitrary way. In his Pink Nude, he lost contact with his model as he became increasingly preoccupied with decorative pattern and resonant color and relied upon imagination.

Mrs. Esther Howard
Medical Librarian



REPORT ON ACTIONS OF THE HOUSE OF DELEGATES AMERICAN MEDICAL ASSOCIATION 109th ANNUAL MEETING JUNE 13-17, 1960 MIAMI BEACH

Health care for the aged, pharmaceutical issues, occupational health programs, relations with allied health groups and relations with the National Foundation were among the major subjects involved in policy actions by the House of Delegates at the American Medical Association's 109th Annual Meeting held June 13-17 in Miami Beach.

Dr. Leonard W. Larson of Bismarck, N. D., former chairman of the A.M.A. Board of Trustees and of the A.M.A. Commission on Medical Care Plans, was named president-elect by unanimous vote. Dr. Larson will succeed Dr. E. Vincent Askey of Los Angeles as president at the Association's annual meeting in June, 1961, at New York City.

The A.M.A. 1960 Distinguished Service Award, one of medicine's highest honors, was given to Dr. Charles A. Doan, who will retire next year as dean of the Ohio State University College of Medicine and director of the Health Center in Columbus, Ohio.

Total registration through Thursday, with half a day of the meeting still remaining, had reached 19,107, including 8,706 physicians.

Health Care For The Aged

After considering a variety of reports, resolutions and comments on the subject of health care for the aged, the House of Delegates adopted the following statement as official policy of the American Medical Association:

"Personal medical care is primarily the responsibility of the individual. When he is unable to provide this care for himself, the responsibility should properly pass to his family, the community, the county, the state, and only when all these fail, to the federal government, and then only in conjunction with the other levels of government, in the above order. The determination of medical need should be made by a physician and the determination of eligibility should be made at the local level with local administration and control. The principle of freedom of choice should be preserved. The use of tax funds under the above conditions to pay for such care, whether through the purchase of health insurance or by direct payment, provided local option is assured, is inherent in this concept and is not inconsistent with previous actions of the House of Delegates of the American Medical Association."

The House also urged the Board of Trustees "to initiate a nonpartisan open assembly to which all interested representative groups are invited for the purpose of developing the specifics of a sound approach to the health service and facilities needed by the aged, and that thereafter the American Medical Association present its findings and positive principles to the people."

In connection with an educational program regarding the aged, the House declared that "the American Medical Association increase its educational program regarding employment of those over 65, emphasizing voluntary, gradual and individualized retirement, thereby giving these individuals not only the right to work but the right to live in a free society with dignity and pride."

Earlier, at the opening session, Dr. Louis M. Orr, retiring A.M.A. president, had asked the House to go on record favoring more jobs for the aged, voluntary retirement and a campaign against discrimination because of age, whether it be 40 or 65. The House also gave wholehearted approval to Dr. Askey's urging that state medical societies take an active part in state conferences and other planning activities preceding the January, 1961, White House Conference on Aging.

Pharmaceutical Issues

In the pharmaceutical area the House took two actions — one regarding mail order drug houses and the other involving the development and marketing of pharmaceutical

products.

The House agreed with representatives of the pharmacy profession that the unorthodox practice of mail order filling of prescription drugs is not in the best interest of the patient, except where unavoidable because of geographic isolation of the patient. The statement pointed out that in this process the direct personal relationship, which exists between the patient-physician-pharmacist at the community level and which is essential to the public health and the welfare of patients, is lost.

The House also directed the Board of Trustees to request the Council on Drugs and other appropriate Association councils and committees "to study the pharmaceutical field in its relationship to medicine and the public, to correlate available material, and after consultation with the several branches of clinical medicine, clinical research, and medical education and other interested groups or agencies, submit an objective appraisal to the House of Delegates in June, 1961." The statement pointed out that certain proposals have been made which, if carried out, might impair the future of pharmaceutical research and development, thus retarding the progress of scientific therapy. It also said that the services of the pharmaceutical industry are so vital to the public and to the medical profession that an objective study should be made.

Occupational Health Programs

The House approved a revised statement on the "Scope, Objectives and Functions of Occupational Health Programs," which was originally adopted in June, 1957. The new statement contains no fundamental alterations in A.M.A. policy or ethical relationships, but it adds important new material on the following points:

1. Greater emphasis on the preventative and health maintenance concepts of occupational health programs.
2. A more positive statement of organized medicine's obligation to provide leadership in improving occupational health services by part-time physicians in small industry.
3. Increased emphasis on rehabilitation of the occupationally ill and injured.
4. Inclusion of the proper use of immunization procedures for employes, as approved by the House in 1959.
5. A more adequate statement on the need for teamwork with lay industrial hygienists in tailoring each occupational health program to the particular employe group involved.

In approving the revised guides for occupational health programs, the House also accepted a suggestion that the A.M.A. Council on Occupational Health undertake a project to study and encourage the employment of the physically handicapped.

Allied Health Groups

The House approved the final report of the Committee to Study the Relationships of Medicine with Allied Health Professions and Services and commended it as "a monumental work." The report covers the present situation, future implications and recommendations, including guiding principles and approaches to activate physician leadership. The House strongly recommended that A.M.A. activity in this vitally important area be continued and it approved the appointment of a Board of Trustees committee to carry on the work.

To develop physician leadership in promoting cooperative efforts with allied health professions and services, the report suggested the following A.M.A. activities:

1. A general conference should be held with allied scientists in the basic medical sciences and related disciplines for discussion of matters of common concern related to the creation of permanent, cooperative activities.
2. Specific exploratory conferences should be held with members of segments of science allied to a given area of medical practice with the national medical organizations concerned.
3. General and specific conferences should be held with professional and technical assistants on education, recruitment and coordination of contributions.
4. Through meetings and publications, reciprocal exchange of information should be provided between physicians and allied scientists and members of health professions.
5. Effective, continuing liaison should be established between A.M.A. represen-

tatives and professional and technical personnel.

National Foundation

The House took two actions involving relations between the medical profession and the National Foundation. It adopted a statement of policies for the guidance of state medical associations and recommended that they be adopted by all component medical societies. These policies cover such subjects as membership of medical advisory committees at the chapter level, the function of these committees, and basic principles concerning financial assistance for medical care, payment for physicians' services and physicians' responsibilities for constructive leadership in medical advisory activities.

In another action the House directed the Board of Trustees to authorize further conferences with leaders in the National Foundation on the problem of poliomyelitis as it relates to the betterment of the public health and to consider further joint action toward the eradication of polio. The House commended the National Foundation for its outstanding service in the attack against polio, but pointed out that much work remains to be done in public education, vaccination, continuing assistance for polio victims and continued research.

Miscellaneous Actions

In dealing with reports and resolutions on a wide variety of other subjects, the House also:

Strongly reaffirmed its support of the **Blue Shield concept** in voluntary health insurance and approved specific recommendations concerning A.M.A. Blue Shield relationships;

Approved a contingent appointment of not more than six months for **foreign medical school graduates** who have been accepted for the September, 1960, qualification examination;

Agreed that the American Medical Association should sponsor a **second National Congress on prepaid health insurance;**

Approved a Board of Trustees request to the Postmaster General for a stamp commemorating the **Mayo Brothers;**

Decided that the establishment of a home for **aged and retired physicians** is not warranted at this time.

Approved the establishment of a new **"Scientific Achievement Award"** to be given to a non-physician scientist on special occasions for outstanding work;

Approved the following schedule for future **annual meetings:** Atlantic City, 1963; San Francisco, 1964, and New York City, 1965;

Approved the objectives of the A.M.A. **Commission on the Cost of Medical Care** established by the Board of Trustees and headed by Dr. Louis M. Orr, immediate past president of the Association;

Urged individual members of the Association to take a greater interest and more active part in **public affairs** on all levels;

Reaffirmed its opposition to compulsory inclusion of physicians under Title II of the **Social Security** Act and recommended immediate action by all A.M.A. members who agree with that position;

Called for a review of existing and proposed legislation pertaining to **food and color additives,** with the objection of supporting appropriate measures which are in the public interest;

Urged reform of the **federal tax structure** so as to return to the states and their political subdivisions, their traditional revenue sources;

Asked state and county medical societies to make greater use of A.M.A. **recruitment materials** in presenting medicine's story to the nation's high schools;

Requested the Board of Trustees to initiate a study of present policy regarding the required content and method of preparing **hospital records;**

Commended the Department of Defense and the Air Force for establishing and operating the **Aeromedical Transport Service** and urged that it be maintained at optimum efficiency;

Directed the Boards of Trustees to develop **group annuity** and **group disability** insurance programs for Association members; and

Expressed grave concern over the indiscriminate use of **contact lenses.**

Addresses and Awards

Dr. Orr, in his final report to the House at the opening session, urged medical societies to "adopt" rural villages, cities and regions in underdeveloped parts of the world and to send them medical, clinical and hospital supplies.

Dr. Askey, in his inaugural address Tuesday night, declared that medicine faces its greatest challenge in the decade ahead, adding that physicians must prove the effectiveness of medicine practiced in a free society. Dr. John S. Millis (Ph.D.), president of Western Reserve University, Cleveland, Ohio, and guest speaker at the inaugural ceremonies, said the human dilemma of the sixties is an increasing desire for security and authority with a diminishing desire for responsibility.

At the Wednesday session of the House, Dr. Askey urged intensified, accelerated effort in five areas — medical education, preparations for the White House Conference on Aging next January, health insurance and third party relationships, mental health, and membership relations.

The Goldberger Award in Nutrition was presented to Dr. Richard Vilter of the University of Cincinnati. The Boy Scouts of America, celebrating its golden jubilee, presented the A.M.A. with a citation in appreciation of the medical profession's help and support. Dr. B. E. Pickett of Carrizo Springs, Texas, retiring chairman of the Council on Constitution and Bylaws, received an award in recognition of his long service.

Election of Officers

In addition to Dr. Larson, the new president-elect, the following officers were named at the Thursday session:

Dr. William F. Costello of Dover, N. J., vice president; Dr. Norman A. Welch of Boston, re-elected speaker of the House, and Dr. Milford O. Rouse of Dallas, Texas, re-elected vice speaker.

Dr. Gerald D. Dorman of New York City was elected to the Board of Trustees to succeed Dr. Larson, and Dr. James Z. Appel of Lancaster, Pa., was re-elected to the Board.

Elected to the Judicial Council, to succeed Dr. Louis A. Buie of Rochester, Minn., was Dr. James H. Berge of Seattle.

Named to the Council on Medical Education and Hospitals were Dr. William R. Willard of Lexington, Ky., succeeding Dr. James M. Faulkner of Cambridge, Mass., and Dr. Harlan English of Danville, Ill., who was re-elected.

On the Council on Medical Service, the House re-elected Dr. Russell B. Roth of Erie, Pa., and Dr. Hoyt B. Woolley of Idaho Falls.

Dr. George D. Johnson of Spartanburg, S. C., was named to succeed Dr. Pickett on the Council on Constitution and Bylaws.

F. J. L. Blasingame, M.D.
Executive, Vice-Pres., AMA

SDSMA STATEMENT OR HR 12580 TITLE 16

(Ed. Note: The following statement on behalf of the South Dakota State Medical Association was filed with the Senate committee studying Social Security Amendments).

The South Dakota State Medical Association has considered carefully the problems surrounding provision of medical care for the elderly, some of which are covered in Title XVI of HR 12580.

The deliberations of the House of Delegates during the Association's annual meeting in May resulted in what we consider a logical five point program. Basic points in that program are as follows:

1: Implementation of a state-wide medical care program for the indigent aged. (Categorical assistance recipients.)
2: Possible implementation of the above program to provide services to the near-needy who do not meet the rigid requirements for indigency under Old Age Assistance.
3. Improvement locally of nursing home facilities.
4: Broadening of voluntary health insurance plans to cover aged with ability to purchase coverage.
5: Removal of the $1200.00 per annum ceiling of earnings of Social Security beneficiaries.

Title XVI, as passed by the House of Representatives may well meet the requirements of our point #2. Any change that would provide medical care to all beneficiaries of Social Security would be most unwelcome and ill-timed.

The doctors of South Dakota cannot accept the premise that all Social Security beneficiaries are destitute any more than we can accept Social Security as insurance. Such programs are not actuarily sound, have established no real need for being, and are exhorbitant in cost.

It is respectfully recommended that Title XVI of HR 12580 be accepted as passed by the House or deleted entirely pending deliberations of White House Conference on Aging in January.

This is your

MEDICAL ASSOCIATION

NEWS • NOTES • • • BIRTHS • • • CHANGES • NEWS

Pop's Proverbs

A good executive delegates work and then sees that it gets done.

UROLOGY AWARD

The American Urological Association offers an annual award of $1000 (first prize of $500, second prize $300, and third prize $200) for essays on the result of some clinical or laboratory research in Urology. Competition is limited to Urologists who have been graduated not more than ten years, and to hospital internes and residents doing research work in Urology.

"For full particulars write the Executive Secretary, William P. Didusch, 1120 North Charles Street, Baltimore, Maryland. Essays must be in his hands before Dec. 1, 1960."

NEWS NOTES

Dr. Ernest Schabauer, who located at Hosmer last July, has moved to Hoven to take over the practice of **Dr. Janis.**

* * *

Dr. A. I. Portela, for the past two years a member of the staff of the Delaney Clinic in Mitchell, has moved to South Boston, Virginia.

* * *

Dr. M. J. DeAlmeida, Viborg, will open the Hurley Clinic building for practice on Wednesdays and Saturdays.

* * *

Dr. F. S. Howe, past president of the South Dakota State Medical Association was named "Mr. Methodist of 1960" at the First Methodist Church Summer Festa in Deadwood.

Dr. John B. Gregg, U of Iowa, will begin private practice of OALR in Sioux Falls, August 15th at 1600 South Western.

* * *

Dr. John B. Janis, Huron, left his practice in that community after fifteen years, to join the staff of the Veterans Administration Hospital in Sioux Falls.

* * *

August 21st has been set as the date for a community celebration honoring **Dr. F. C. Totten** of Lemmon for his fifty years of service.

ASSOCIATION MOVES TO NEW OFFICE

July 15th was moving day for the South Dakota State Medical Association as the office staff transferred its activities from 300 First National Bank Building to 711 North Lake Avenue. The executive office had been located in the bank building for fourteen years.

The new headquarters has 4400 square feet of floor space on one level only. An attractive lobby provides an information desk with space for a receptionist and a secretary. In the area housing the medical association employees are a meeting room, mailing and work room, assistant editors' office, storage room, snack room, assistant executive secretarys' office, executive secretarys' office and bathroom facilities. The rest of the area houses a large central office for Blue Shield, IBM and teletype room, file room, work room, plus two two-room suites which are rented to the National Foundation and the State Nurses Association.

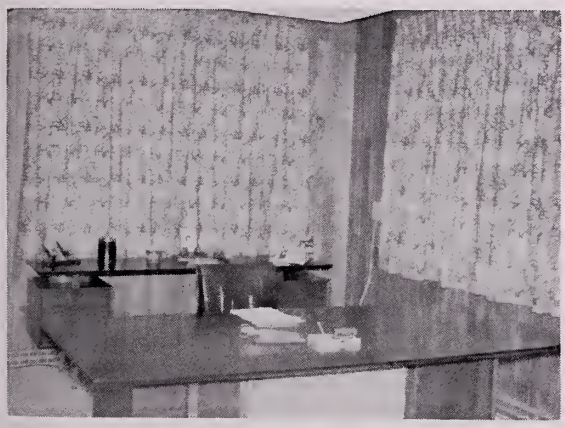
The building is brick a block construction.



Entrance to the new headquarters is highlighted by flame Formica doors topped off by 3 shades of blue tile above. Sidewalks and lawn were not in when this photograph was taken.



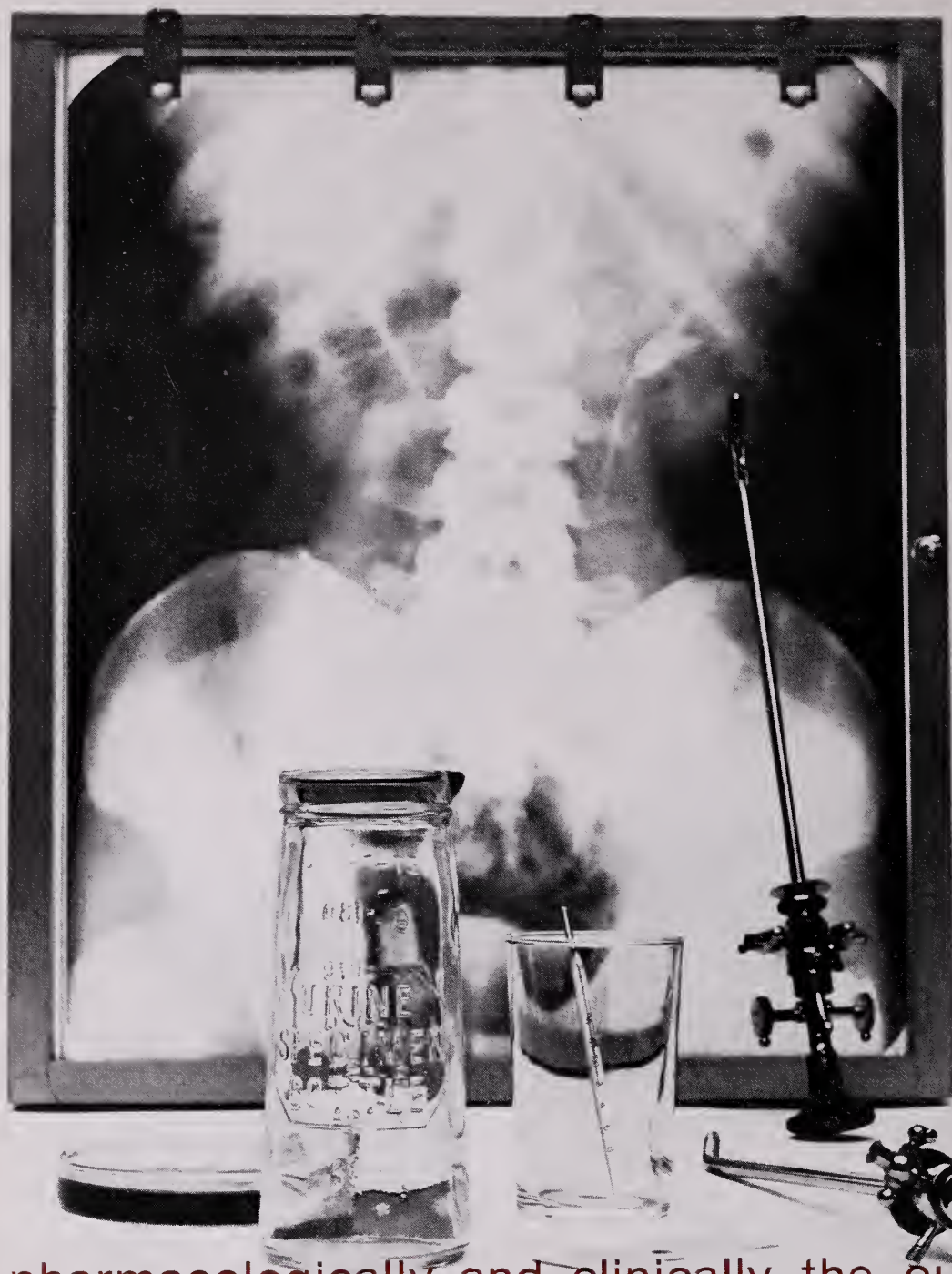
Office reception area faces brick wall with modern turquoise colored settee.



Executive secretary's office is furnished in walnut with brown draperies. Exec. Sec'y Foster reports desk is never this bare — claims picture was "rigged."



Corner of executive secretary's office is furnished in Danish style walnut upholstery in turquoise color.



when sulfa is your plan of therapy...

pharmacologically and clinically the outstanding

Rapid peak attainment — for early control — KYNEX® Sulfamethoxypyridazine reaches peak plasma levels in 1 to 2 hours[1,2] . . . or approximately one-half the time of other once-a-day sulfas.[2] Uninterrupted control is then sustained over 24 hours with the single daily dose . . . through slow excretion without renal alteration.

High free levels — for dependable control — More efficient absorption delivers a higher percentage of sulfamethoxypyridazine — averaging 20 per cent greater at respective peaks than glucuronide-conversion sulfas.[2] Of the total circulating levels, 95 per cent remains in the fully active, unconjugated form even after 24 hours.[3]

Extremely low toxicity[4] . . . only 2.7 per cent incidence in recommended dosage — Typical of KYNEX relative safety, toxicity studies[5] in 223 patients showed **TOTAL** side effects (both subjective and objective) in only six cases, all temporary and rapidly reversed. Another evaluation[4] in 110 patients confirmed the near-absence of reactions when given at the recommended dosage. High solubility of both free and conjugated product[6] obviates renal complications. No crystalluria has been reported.

Successful against these organisms: streptococci, staphylococci, E. coli, A. aerogenes, paracolon bacillus, Gram-negative rods, pneumococci, diphtheroids, Gram-positive cocci and others.

1. Boger, W. P.; Strickland, C. S., and Gylfe, J. M.: Antibiotic Med. & Clin. Ther. 3:378, (Nov.) 1956. 2. Boger, W. P.: Antibiotics Annual 1958-1959, New York, Medical Encyclopedia, Inc., 1959, p. 48. 3. Sheth, U. K.; Kulkarni, B. S., and Kamath, P. G.: Antibiotic Med. & Clin. Ther. 5:604 (Oct.) 1958. 4. Vinnicombe, J.: Ibid. 5:474 (July) 1958. 5. Anderson, P. C., and Wissinger, H. A.: U. S. Armed Forces M. J. 10:1051 (Sept.) 1959. 6. Roepke, R. R.; Maren, T. H., and Mayer, E.: Ann. New York Acad. Sc. 60:457 (Oct.) 1957.



once-a-day sulfa...

NOTE: Investigators note a tendency of some patients to misinterpret dosage instructions and take KYNEX on the familiar q.i.d. schedule. Since one KYNEX tablet is equivalent to eight to twelve tablets of other sulfas, even moderate overdosage may produce side effects. Thus, the single dose schedule must be stressed to the patient.

KYNEX Tablets, 0.5 Gm., bottles of 24 and 100. Dosage: Adults, 0.5 Gm. (1 tablet) daily, following an initial first day dose of 1 Gm. (2 tablets).

KYNEX Acetyl Pediatric Suspension, cherry-flavored, 250 mg. sulfamethoxypyridazine activity per teaspoonful (5 cc.). Bottles of 4 and 16 fl. oz. Recommended Dosage: Children under 80 lbs.: 1 teaspoonful (250 mg.) for each 20 lb. body weight, the first day, and ½ teaspoonful per 20 lb. per day thereafter. For children 80 lbs. and over: 4 teaspoonfuls (1.0 Gm.) initially and 2 teaspoonfuls daily thereafter. Give immediately after a meal.

KYNEX®

Sulfamethoxypyridazine Lederle

NEW—for acute G.U. infection AZO-KYNEX® Phenylazodiaminopyridine HCl—Sulfamethoxypyridazine Tablets, contains 125 mg. KYNEX in the shell with 150 mg. phenylazodiaminopyridine HCl in the core. Dosage: 2 tablets q.i.d. the first day; 1 tablet q.i.d. thereafter.

LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

Lederle

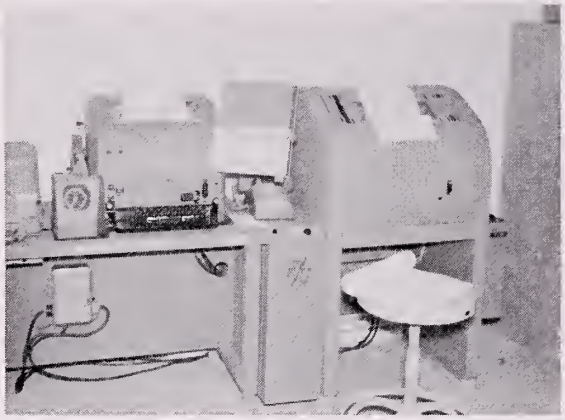
Woodwork is red oak stained a light walnut. Floors are tiled (carpeted in executive offices) and ceiling are acoustic plaster or tile.

An open house for physicians is scheduled during the medical-legal conference in September.

General contractor for the structure was Henry Carlson Co. of Sioux Falls. Others were Tessier Sheet Metal of Mitchell, Swedes Electric of Sioux Falls, and Bob Howe Plumbing of Sioux Falls.



Blue Shield claims office features light green metal desks. Room is large enough to accommodate six employees.



IBM — Teletype room just off Blue Shield claims office keeps our plan in touch with all other Blue Shield — Blue Cross plans in the nation.

INTERNISTS SET MEETING AT U.S.D.

The annual meeting of the South Dakota Chapter of the American College of Physicians will be held at the Medical School in Vermillion on September 30 and October 1. Dr. Jack Donahoe, Sioux Falls is program chairman. Scheduled to present papers are Drs. Wesley Spink, Minneapolis; Robert Thompson, Yankton; E. S. Kahler, Sioux Falls and Gordon Paulson, Rapid City.

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HAROLD S. BAILEY, PH.D.
EDITOR
Division of Pharmacy
South Dakota State College
Brookings, South Dakota



THE GREAT HISTORIC CHALLENGES IN MEDICINE AND THE MEN WHO ANSWERED THEM*

by

Flex Marti-Ibanez, M.D.**

Once again, we, physicians, investigators, technicians of the pharmaceutical industry, and even a medical historian temporarily a fugitive from his tasks, are assembled on the occasion of the Seventh Symposium on Antibiotics.

For seven years—seven, the magic number that since even before Pythagoras has represented through the ages the ultimate perfection of man's knowledge of numbers and of the heavens — we have made this symposium an international loudspeaker resounding with the preoccupation and the occupation, with the thought and the word, of the standard-bearers of antibiotic medicine, under the direction of Dr. Henry Welch, of whose dynamic scientific personality and tireless labor these meetings have been a shining reflection.

This year I would like to talk to you about the great challenges to Medicine in the past and the men who faced them.

Challenge and Reply in Medicine

What counts in the life of men and of nations is not so much their achievements as the challenges that cross their path and particularly the way they face them. In this sense, the history of our seven symposia is the history of the great challenges encountered by antibiotic medicine and of the way

*Address delivered at the Seventh Annual Symposium on Antibiotics, Washington, D. C., Opening Session, November 4, 1959.

Professor and Chairman of the Department of the History of Medicine, New York Medical College, Flower and Fifth Avenue Hospitals; Editor-in-Chief of **MD Medical News magazine.

scientific investigators have faced them.

At the first great symposium of all, held more than two thousand years ago at the house of Agathon in Athens, by the light of torches that sparked the wine goblets into a myriad of rubies, Eryximachus the physician defined medicine to the other guests, among whom was Socrates, as "the study of the love affairs of the organs of the body." In like manner, we might say that at these annual symposia we have listened to the love affairs between antibiotics and germs, with the latter behaving like frivolous girls, now being vulnerable, now resisting the antibiotic onslaught.

At first sight, these symposia may appear to summarize every autumn the rich scientific harvest of the previous year. But I would say it is the other way round. Getting together here, interchanging impressions, inquiring into one another's work, dreaming together, sharing our hopes — this to a large degree is what determines the harvest of discoveries to be reaped the following year. More than an account of what you have done in the past year, this symposium each year is like the hoisting and unfurling of an inspiring banner that galvanizes you scientists to further action, to do still greater things in the year to come.

It is fitting to inquire if the new scientific challenges uncovered at each symposium are just another facet of these our times, which, like a rose among thorns, are so full of promise and yet bristle with problems. History tells us that medicine obeys the law of action and reaction, wherein each new scientific step, each medical discovery, starts a chain reaction of challenges that the physician must resolve if he wants to ensure continuity in the history of medicine.

In mythology each new victory of Hercules during his Labors, each new exploit of Ulysses during his Odyssey across the azure waters of the Mediterranean, led only to new perils that the hero had to overcome if he wanted to reach the naven of his dreams safe, sound, and victorious. In science, each conquest engenders new menaces to itself, and the scientist must stand ready to overcome these menaces, if his progress is not to be deterred by setbacks, like the tortoise in the fable.

Thus, science, like human life, is an operation that moves forward. Like life, science also must be fiercely faithful to itself and to its vital authenticity. It must be faithful to the duty of facing its repertoire of problems. In life, as in science, one cannot shelve, shirk, or evade problems. They must be confronted with a serene face and a valiant soul, as problems are wont to flee and vanish before the bold tread of the fearless fighter, just as phantoms in a haunted castle vanish before the first glow of dawn that sheds light and life upon everything.

The Seven Great Challenges in the History of Medicine

The emergence of challenges on the road of contemporary medicine is nothing new. At every period in history the physician has been beset by tremendous problems, which he has resolved by dint of his genius and ingenuity. We could reduce to seven these great historic challenges to medicine, just as we could reduce to seven contemporary medicine's responses to such challenges, and again to seven — always the magic number — the spiritual virtues of the scientific investigator, on whose ability to respond to such challenges medical progress depends.

The first great challenge arose in the world that emerged from the neolithic world of the flint. "River civilizations" sprang up on sun-blazed steppes, and brown-skinned peoples, originally from Asia, condemmed to annihilation by the scorching sun and whirling sands, struggled desperately to survive in the wildernesses. Such were archaic Egypt and Mesopotamia when man answered the challenge of the shapeless world around him peopled by invisible presences and demons, with the sheltering geometric architecture of pyramids and ziggurats. That was also the time when medicine men tried to master the invisible forces of nature and disease by means of the first pseudoscience, magic medicine. The archaic medicine man resorted to the stars, the livers of sacrificed animals, and auguries to safeguard the life of his people against the demons that caused the spiritual possessions and fevers we now call psychoses and infections respectively.

The second great challenge came on the golden Greek peninsula and its sun-blistered lemon-and-olive groved islands, where the

first great philosophies and religions of the western world were born. There, more than 2500 years ago, man for the first time in history dared to face the intellectual challenge posed by the nature of the universe, of man, and of disease. The Greek philosophers, many of them physicians, were the first to use the magnificant instrument of thought to awaken man's conscience and dignity, and to formulate the concept of disease as a natural process that could be healed by empirical and rational means.

The third great challenge was sheltered by the gloomy skies of the Middle Ages, when the Black Death and other great pandemics threatened to destroy the human race. The men who met this challenge were physician-priests, shut away in the only places where medicine could still be practiced, the monasteries, which, stationed along the great routes travelled by pilgrims, crusaders, and merchants alike, were a dynamic combination of news agencies and centers of bookish research. Theirs was strictly a "book medicine"; nevertheless, in their fight against epidemics and other manifestations of nature's destructive forces they created hospitals, universities, and public health measures, which, together with the Gothic cathedrals and the **Divine Comedy,** were the great medieval contributions to civilization.

The fourth challenge arose in the Renaissance, a period throbbing with the parallel urges to explore the human body and the horizon stretching beyond the seas, both of which until then were **terra incognita.** The fever of the navigators to discover the lands asleep beneath the virgin stars of the western sky was matched by the fever of Renaissance surgeons and anatomists to discover with their scalpels the mysteries hidden beneath the human skin. The challenge posed by the mysterious structure of the organic fabric was answered by hands urged on by the bold and rational thought of the Renaissance surgeons and anatomists.

The fifth challenge was to decipher the secret of the physiology of the human body and its mysterious functions. This problem was unraveled in the Baroque period, when the motion and emotion characteristic of Baroque art were reflected in the concepts applied to scientific investigation, as in the discovery of the circulation of the blood, which was to make **anatomia animata** in space, just as Baroque embryology made **anatomia animata** in time. When dynamic physiology replaced the static anatomy of the past, the way was opened for a series of discoveries in circulatory, digestive and nervous physiology, on which modern medical science is founded.

The sixth challenge was presented by disease therapy, which at the end of last century was still as empirical as it was two thousand years ago. Clinical and laboratory investigators answered this challenge with immunobiologic, endocrine, chemical and, more recently, antibiotic therapies, calling for a naturalistic and experimental criterion in the treatment of diseases.

The challenge of our own time is to decipher the nature and the biochemical substrate of disease and its natural history, the biologic cycles of the pathogenic agents, the enigmas of genetics, and the secrets of ecology, and thus be able to anticipate the biologic destiny of man and to make of therapautics a subtle diagnostic key with which to unlock the last door opening to the threshold of life.

The Concept of Biochemical Responsibility

We have progressed therefore from the primitive **anatomic** notion of disease, which placed all responsibility on one organ only, to the **physiologic** notion, which accepted a multiple organ functional responsibility, and from there to the **biochemical** notion, which, ignoring the primitive concept of the diseased organ and the later concept of miltiple alteration, concentrates instead on biochemical responsibility.

This means accepting the **totality** of the pathologic disorder, which, though initially it springs from the alteration of one organ, is not limited to the boundaries of that organ, but adheres to the concept that the seat of every disease, however limited it may seem, is the **whole** body, and the disorder is therefore a **general** disturbance of all the organic humors.

We have thus returned to the original humoral notion propounded more than two thousand years ago by Hippocrates, which was later displaced to some degree by Galen's partly anatomical concepts. This is one of the

paradoxes in the history of medicine. It took many centuries to agree that diseases did not float mysteriously within the body but were localized in what was successively described in the course of history as organ, texture, fiber, web, membrane, tissue, and cell.

In contrast, we are nowadays reverting to the **humoral** idea of disease, but with the difference — on which rests the progress of our knowledge—that we now agree that diseases, including psychiatric disorders, are localized in organs but affect the totality of the organism due to the efficient correlation mechanisms of the body, particularly the endocrine and neurovegetative systems, and that mysterious, pallid tissular jungle known as the diencephalon and the hypothalamus-pituitary-adrenal axis. This jungle is in our century the site of enthralling explorations which, with the aid of biochemical tools, are destined to make discoveries in the inner space of man more extraordinary than those that rocket ships may make in outer space.

Medicine's Seven Answers to the Challenge of our time

The challenge therefore that Medicine faces today is to protect health and prevent disease by increasing its knowledge of the processes of health and disease.

In facing this challenge, modern medicine has established the basic problems it must first solve, as follows: First, to know the biochemical substate of health and its alterations, including that of mental processes. This knowledge, which already enables us to look into the chemistry of joy and sorrow and of the genius and the artist, will provide a dynamic tool with which to approach the promotion of health, not from afar, as in the past, but from the innermost redoubts of its formerly impregnable citadels. Second, to know thoroughly the processes of growth, convalescense, aging, and death, so as to be able to rehabilitate the diseased, to safeguard the development of the human beings, and to prolong his life, if not for the purpose of realizing Faust's utopian dream of immortality, at least to ensure that man's twilight may be as bright as possible, delaying the final fall of the mist-shrouded night. And third, to know the biochemical processes underlying the etiology and pathogenesis of the three great groups of diseases: neurosis, biosis, and sclerosis, that is, functional, organic (including the infectious), and degenerative diseases, for this is the only way we can get to know them, prevent them, and cure them.

To solve these problems, contemporary medicine has already started on seven different tracks:

It is using biochemical, physiotherapeutic, and dietetic resources to strengthen normal human physiology and organic defenses as the best means of converting the body into a fortress, walled against the invasion of disease and capable of resisting all sieges or of expelling any invader that may succeed in penetrating into the human citadel.

It is applying ecology in providing man with the most suitable environment to safeguard and improve his health, his well-being, and his culture. Pursuing this end, "portable" environments with adequate food and artificial climate have already been created to enable man to travel to the polar zones, the tropics, or in cosmic space, carrying with him his most favorable ecologic environment.

It is combating the causes of disease — germs, toxins, traumas, stresses, radiation, noxious foods, noise — by trying both to prevent them and to eradicate them as they spring up. Our aerocosmic age has brought about the vertiginous development of a new discipline, space medicine, whose greatest value lies in its finding not so much about man's life in cosmic space as about man's normal physiology.

It is synthesizing new drugs to treat "new" diseases (alterations of the collagen system, the ABD syndrome, Korean icterohemorrhagic fever, radiation disease, antibiotic-resistant infections) native to our times, which are man's penalty for the progress of civilization.

It is using new drugs to treat "old" diseases, replacing the bow and arrow type of medication with weapons of "atomic" scope, such as antibiotics, ataraxics, new vaccines, and the more recent diuretics and anticholinergics.

It is discovering different techniques to study those processes of the body still unknown, in the hope of forcing the organs to reveal their secrets in that mysterious language of theirs that is translated into data, figures, microstructural images, and labora-

tory reactions. These new techniques have also revolutionized the teaching of medicine and medical communication by placing at their service a dazzling armory of electronic resources.

To diagnose diseases still unknown, it is seeking and investigating new substances, such as the experimental cancerogenic agents, the new cholesterol solvents, and the hallucinogenic drugs that are now being used in mental cases and that may disclose some of the secrets of schizophrenia and perhaps even the roots of artistic genius.

The Danger of Creating a Mythology of Science

These, then, are the historical challenges that medicine faces today, challenges that must be met not by philosophers, priests, or missionaries as in the past, but by scientific investigators, men who have been driven into **research** by their **search** for truth and for their own personal destiny.

If that brave infantryman of Medicine, the practicing physician, must daily provide prompt answers to the problems of the moment of his patients, since their lives may depend on his decisions, the medical investigator must provide more permanent answers to general medical problems, answers in which he must even anticipate the future. If clinical medicine must answer individual challenges of a temporal nature, medical research must answer universal and eternal challenges.

Never before have investigators had at their disposal so many and such good tools and equipment and so much economic aid with which to face medical problems. Even the popular support that in every period in history has invested great heroes with a golden halo is now accorded to investigators.

But the present formidable advance of science entails the danger of superimposing a mythology of science over contemporaneous scientific thought, a danger that, like a storm cloud, is soaring across the sunlit scientific panorama of our time.

What do I mean by mythology of science?

Well, we know that ancient mythology was characterized by a monstrous over-estimation of the hero's powers. The mythological hero was credited with supernatural powers, superhuman energy, unparalleled bravery and extraordinary determination, which enabled him to do anything, to overcome everything, to master all things and beings. More impressive than his exploits was the extraordinary fact that he always faced impossible enterprises with the foreknowledge that he could accomplish them.

The hero's weapons were equally overvaluated and had an importance equal to that of the hero himself. Siegfried's sword, Appolo's arrows, were considered invincible.

And finally, each individual triumph of the hero was so overestimated that his final goal was lost sight of. Each successive victorious step was confused with the accomplishment of the hero's original mission. The labors of Hercules became more important than their original motivations; Ulysses' voyage because of its epic magnitude eventually obscured its original purpose: to return to the loving arms of Penelope.

But mythology was not made only by the poetic bards in the days of Homer and classical Greece. Mythology has continued to be made all through history, even in medicine, and the result has always been the same: the myths, which are only projections of man's hopes and fears, just as legends are history distorted by the imagination, eventually supplant reality. This is what happened with the myths created around Imhotep and Aesculapius. Imhotep actually existed three thousand years before Christ, but twenty-five centuries later he was a god; and Aesculapius started as a prince of Thessaly and ended centuries later as a god of medicine venerated in hundreds of temples throughout Greece.

Man to this day continues to create mythology, because he simply must have heroes to protect himself against the tedium of life, and because he still needs to project his hopes and fears onto extraordinary beings and objects. Recently, the psychologist C. C. Jung demonstrated in a magnificent study that "flying saucers," whatever their physical origin, are crystallizations of a popular psychic projection of the myth that intelligent forces do exist in cosmic space. In such sense they are a "modern psychological myth."

Likewise, in medicine a dangerous mythology of science is now being created. This mythology has the same characteristics as the mythology previously mentioned, that is

to say, overvaluation of the almost supernatural power of the hero — in our case, the scientific investigator; overvaluation of his weapons or tools — in our case, technology; and confusion of his partial triumphs — the conquests of applied science — with his final goal, which is a better knowledge of nature and or man so as to be able to protect his health and prolong his life.

An example of the first characteristic is the unfortunate popular publicity nowadays given to the scientific investigator, which leads to the belief that every investigator who has developed a new substance has already conquered the disease for which it is intended, or that each new drug — ataraxic, steroid, toxoid, antibiotic — is the definitive therapy for a disease. An example of the second characteristic is the almost religious worship of all technological advances in electronic instrumentation, laboratory techniques, and the rest, while the object for which they are destined often take second place. An example of the third characteristic is the recent overestimation of certain drugs, for instance, ataraxics, which are really only a key to unlock a few doors in the unexplored castle of the psychoses.

We must be on guard, lest this mythology of science grows roots and takes the place of reality, lest excessive faith in the investigator's invincibility and the power of his technological weapons and excessive glorification of practical scientific victories end in diverting science from its true path. The frequent sight of his countenance mirrored in the pools of technological progress might make the investigator forget to keep his eyes fixed on the broad sunny horizons that are the true objective and ideal of science. Each of the investigator's triumphs is a step forward in the march of progress, but technology, that is to say, applied science, can never replace basic science, wherefrom flows, like water from a spring, the clear philosophical stream that guides man on his way through history.

Above all, it is necessary to banish the growing tendency to experiment for the sake of experimenting, without a definite philosophical purpose. Though Claude Bernard recommended hanging up imagination with one's hat upon entering the laboratory and retrieving them both only upon leaving, he nevertheless never failed to exercise his **scientific** imagination, a luminous and almost poetic vision of what he wished to attain by his experiments, which he wore on his brow like an invisible hat from which he was never separated.

Experimentation is the foundation of science, though it is not its **raison d'etre,** as devotees of the mythology of science claims. It must at all events be guided by ideas, by hypotheses, by an intuitive vision of the ideal goal that it is wished to reach. Should it not be so guided, the now developing hypertrophy of "pure" experimentation will ultimately lead to atrophy of the investigator's imagination.

The best remedy against the danger of mythology is for all those dedicated to science continually to remind themselves with humility, as the Carthusian monks continually remind themselves of death, that both the investigator and technology have their limitiations. Although the answers we have found to concrete problems up to the present have been dazzling, the greatest problems still remain unsolved after some six thousand years of written history.

The mythology of science, that is, excessive credence in what science can do for humanity, may continue to grow among the general public, but I feel sure that we scientists will try to maintain a human nonmythological attitude, because we know that without it there can be no real progress in the field of science.

I believe this because, quite apart from the dazzling mythological armor in which the public arrays the investigator, the investigator does possess certain virtues, invisible to the public, that give him inner stature and in which reside his true greatness and that of his work.

The Seven Virtues of the Modern Scientific Investigator

Everyone knows the technical resources today available to the investigator in accomplishing the formidable task entrusted to him. I shall not quote statistics, for though I sometimes use them I dislike them strongly, just as I hate umbrellas, yet use one when it rains. Instead, I shall mention the spiritual resources of the investigator, his seven capital virtues — as I called them in a recent study on Carlos Finlay, "The Pasteur of the

Americas," discoverer of the mosquito's role in yellow fever — virtues which hold the key to his greatness and the justification for looking forward with optimism to medicine's response to the great challenges of our time.

History, including that of medicine, is made by men, and on the number of spiritual carats such men possess depends the possibility and magnitude of their triumphs.(*) But even in the clean, fresh climate of science, one needs a purpose, a method, a spirit. I have already spoken of the purpose and the method of contemporary medical science. Its spirit is that of the men who are today making that science. Benjamin Franklin said, "All mankind is divided into three classes: those that are immovable, those that are movable, and those that move."

Scientific investigators are those who **move,** who do things, who express their greatness in actions of vast consequence to humanity. On their virtues depends the progress of science. The best scientific machine or instrument, the most perfect laboratory, the most advanced statistical methodolgy, the latest electronic advance, all these would be worth nothing without the man who, in the laboratory, clinic, office, or library, contribute his life so that the stately chariot of medicine may move forward. Without these men no history of medicine could be made, just as no good building could be erected without pillars to support its foundations.

Foremost among the investigator's virtue I place **goodness.** A castle is as strong as its foundations. Every great man, every great investigator, begins by being a good man. The humaneness of daily life must overflow into the humanism of the investigative genius. In no profession as in medicine is it so important to be a good man. "Science without conscience is nothing but baseness of the soul," said that lapidary of eternal truths, Montagine. The true investigators is an indefatigable galley slave of medicine, who, renouncing the glitter of easy success and tempting profit, chooses the troubled seas of investigation instead of the calm harbors. Modesty is usually the inseparable companion of such goodness.

(*) Science has progressed because it stepped from what was its basis in the past, that is, qualitative impression, to its present basis, which is quantitative measurement. If to make art is to create, to make science is to **measure.**

The second quality is **greatness.** Greatness is simplicity. This has been so from Hippocrates to Fleming. A greatness that is an aristocracy of the spirit is the only sovereignty people can accept without relinquishing their own sovereignty. Greatness in the true investigator is to go through life doing with a simple spirit things that may benefit his fellow-beings, building a mighty pyramid without losing his childlike innocence of soul. It is to remain indifferent in the face of indifference, to have faith in his convictions, even during the interminable night of failure, certain that the dawn will come. It is to accept life — as did El Greco in Toledo — as splendor and radiance, lighting the shadows of his laboratory with his own inner light.

Sometimes **genius** is added to these qualities. While in art knowledge is spasmodic and non-accumulative, in science it is systematically accumulative and keeps on replacing itself. A Botticelli, a Cervantes, a Beethoven, each in himself is a complete cycle who needs no predecessors and leaves no school. Hence a work of art — symphony, statue, painting — is immortal, while the life of a scientific work — report, address, lecture, or research — is ephemeral and always liable to be superseded by a more recent work.

In art, genius is the rebel artist who creates his own universe in its entirety; in science, genius is the rebel investigator who excels his universe by applying the spark of his intuition to already existing knowledge. Genius is intuition, but it is also logic in the service of a fervent vocation, displayed at the right time and in the proper place. Besides quality, genius is also quantity, as borne out by the prolific work of Paracelsus, Harvey, Hunter, Freud, and Fleming. The true genius rarely makes a single discovery. The great investigator, generally, makes many.

Add to that the **spirit of inquiry,** in which experimenting is the indispensable complement to theorizing thought and not a means for exploding sensational intellectual fireworks. Patience in waiting and quickness in thought distinguish the investigator. Often the genius' intuition flashes suddenly, but the true investigator will, if necessary, spend years in verifying his spark of truth, reconcil-

ing noble haste — haste, eternal companion of the creator — in his endeavor with patience in its confirmation.

Lucidity is another quality indispensable in the investigator, because the style is the man, or in other words, man in his human quality is his style. In his tribute to Claude Bernard, delivered in Paris on the 3rd of April, 1879, the great historian Ernest Renan said of Bernard's style words that could be applied today to any investigator: "Human intelligence is a whole so well united in all its parts that a great mind is always a good writer. The true methods of investigation, given a firm and healthy judgment, embrace the solid qualities of style . . . . The standard of good scientific style is lucidity, perfect adaptation to the theme, complete forgetfulness of self, absolute abnegation. That is also the standard for writing well, whatever the subject. The best writer is the one who develops a great subject and forgets himself in order to allow his subject to speak for itself . . . . He uses words like a modest man uses his clothing, to cover himself . . . . He thinks, he feels, the words flow . . . ."

The style of the good investigator sparkles with the diamantine brilliance and limpidity typical of the man who knows certain things thoroughly and wishes to explain them so that everyone will understand. Reading great writers, like Erasmus and Juan Luis Vives, one realizes that style is like the acrobat's tights, which cover his figure without concealing it, like a close-fitting glove on the hand of thought. Fleming's reports are like a transparent window through which one can see unmarred by a single mote of dust the wide prairies of his thought. The creed of the true investigator is fidelity to the truth, and that means not only to seek it and serve it, but also to express it in language intelligible to everyone. Finlay, Cajal, Freud, Fleming, Osler — these men allowed no hyperbole or redundancy, no exaggeration of concepts, to creep into their prose and cripple its scientific probity. Lucidity in style presupposes lucidity in thought, and this in turn implies clarity of spirit. A clear style, like a clean windowpane, indicates that the owner does not fear inquisitive eyes. The investigator's prose must be fluid, fresh, and crystalline, like the water from a mountain brook.

The investigator is a true **patriot,** because he is a living part of the historical conscience of his epoch. He can look at the problems of his country and of his time with eyes both critical and loving, for the true lover does not respond blindly to Cupid's darts but loves his beloved though his eyes are wide open to her defects. The investigator's homeland grows with each of his discoveries, until it becomes a universal homeland not to be found in any geography book. The investigator is the **homo universalis** of our time and helps to promote the health of all people on our planet. He can sometimes, without leaving his home or country, delve so deeply that he reaches universal roots, preferring vertical profundity to horizontal spreads, which guarantees his universality in space and his immortality in time.

Finally, the investigator possesses **universality.** In the address already quoted, Renan said, "Glory has something homogenous and identical. Everything that vibrates produces it. There are not various types of fame, any more than there are various kinds of light." All glories derive their rays from the same source. The investigator's glory is universal and clothes with honor all who can admire an ideal and dedicate themselves selflessly to it.

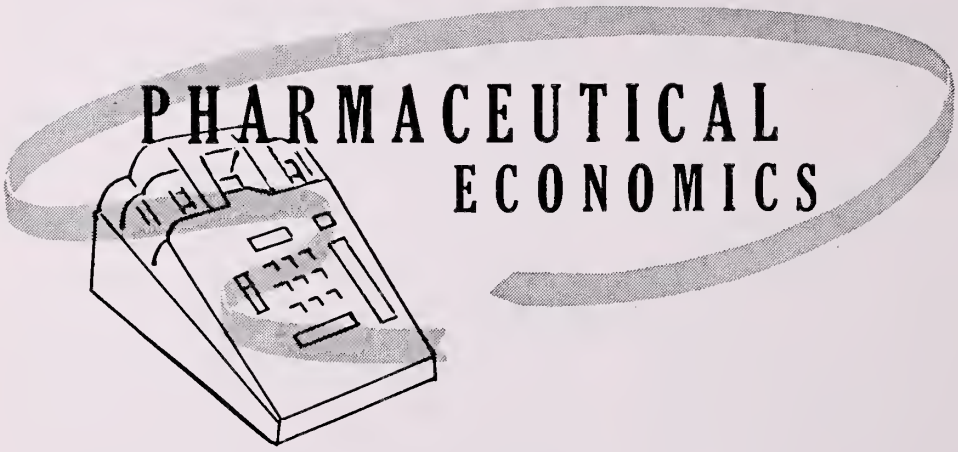
L'envoi

In these times of atomic and cosmic terrors, it must be remembered that when all the mechanical marvels of the age have been replaced by others, the example of the selfless investigator will endure unshaken as an inspiration to man and people and as a memorial pillar for all time.

On such virtues is founded my optimistic readiness to believe that the mind of the investigator, like a many-colored glass dome shedding its radiance on all fields of human knowledge, guarantees the unceasing progress of human effort.

Other speakers here are better prepared than I to describe and extol the vast intricate technical resources, instruments, equipments, and institutions now at the service of science and of the investigator. I, like a flower-laden botanist emerging from the woods, would only like to pin in your lapel a sprig of seven blossoms: goodness, greatness, genius, spirit of inquiry, lucidity, patriotism, and universality. Of those seven ineffably sweet-smell-

(Continued on Page 447)



PUBLIC ATTITUDES TOWARD PRESCRIPTION COSTS AND THE DRUG INDUSTRY

PART II

WHOM DO THE CRITICS BLAME FOR THE HIGH COST OF PRESCRIPTIONS?

It will be recalled that 38% of the public expressed the view that the cost of prescriptions is much too high, and that 28% felt that these costs are somewhat higher than they should be. These two groups, comprising about two-thirds of the total population, were then asked: "Why do you suppose prescriptions cost so much? Who or what is to blame?" Results are summarized in Table 1.

	Percent of Critical Group
Blame the druggist: he overcharges, makes too much profit	21%
The druggist may be to blame; don't know unless it's the druggist	5
Blame the doctors: they get a kickback, make a profit on drugs	7
Blame the doctors: they prescribe too many expensive drugs, or other reasons	3
Blame the manufacturers: they overcharge, make too much profit	6
The manufacturers may be to blame; don't know unless it's the manufacturers	1
"They" can take advantage of you because you have no way of knowing the real cost	2
"They" can take advantage of you because the drugs are a necessity, you have to have them	4
Somebody is making too much money out of it, don't know who, or everybody is making too much	8
Miscellaneous answers blaming someone	2
Total of reasons according blame	(59)%

	Percent of Critical Group
Druggist has to charge a lot because of his skill, training, difficulty of work, etc.	6
Druggist has to charge a lot because of his overhead, he has to make a living, etc.	9
Druggist has to charge a lot because the drugs cost him a great deal (no blame of anyone)	5
Drugs are expensive to manufacture, so manufacturers have to charge a lot	6
Ingredients, processing are expensive	11
The drugs are new, scarce, in demand, so naturally they cost a lot	10
Much research is involved in developing the drugs, so they have to cost a lot	6
It is expensive to distribute the drugs, must pass through many hands (no blame of anyone)	4
Everything is high, the cost of living is up, so drugs are too	5

The drugs are so effective and powerful that they naturally cost a lot	2
Miscellaneous reasons (no blame):	
Taxes are high, etc.	2
Total of reasons according no blame	(66%)
Don't know why they cost so much	19%
Some people gave more than one reason	144%

Perhaps the most significant finding presented in this table is the fact that less than half of the answers assign any degree of blame to anyone for the high cost of prescriptions. It should be remembered, too, that the people answering this question are those who had earlier said that drug costs were much or somewhat too high.

The bulk of the reasons offered for high drug prices are mere statements of fact: the drugs are expensive to develop, manufacture and process; they are new, still scarce and in great demand; the druggist and everybody else has to make a fair profit; costs in general have risen, and so on.

The second important finding which emerges from this table is the relative distribution of blame by the public, among the druggist, the doctor and the drug manufacturer. It is apparent that most of those who pick out a specific person or group as responsible tend to blame the retailer, while only an insignificant portion of the public blame the drug manufacturer for the high cost of prescriptions.

About one fourth of the critical group complain that the retail druggist charges more than he should; about one-tenth of the group charge the doctors with responsibility for the high cost of prescriptions; but only about one person in fourteen within this group picks out the manufacturer as the culprit.

This is not to say, of course, that if one were to ask direct question, "Do you think drug manufacturers are charging too much for their products", only a small minority of the population would answer "Yes." Prompted by such a plausible suggestion, it is likely that a substantial majority would concur. The point of our finding is that when people are asked to cudgel their own brains for an answer to high drug costs, most of those who blame somebody for the situation find fault with the retailer rather than the manufacturer. The reasons for this are elaborated in a subsequent section.

The same pattern emerges from another question designed to assess responsibility for high drug costs. Persons who admitted that the price which they themselves paid for "wonder drugs" when purchased by prescription was "quite a bit more" than they expected to pay were asked: "Why do you suppose they cost so much?"

In reply to this question, only 14% of the group cast blame on someone for unjustified charges. Again, the most frequent replies merely stated well known factors contributing to the high prices: the drugs are difficult or expensive to develop and manufacture, they are scarce and in great demand, they are new, the druggist and the manufacturer have to make a fair profit, etc.

And again, those who blame someone for the high cost of these drugs tend to pick on the retail druggist or some unspecified "they," more often than they do the manufacturers. Among the group in question who paid quite a bit more than they expected, 6% blamed the druggist for overcharging, 8% said "someone" (not specified) was making too much profit, and only 3% accused the drug companies themselves.

To summarize:

> Most of the people who say drugs cost too much do not blame anyone in particular for this state of affairs; they appear to accept the high prices as necessary, even though they don't like to pay them. Among those who do accuse a particular group of over-charging or other unfair practices, the retail pharmacist or some unspecified "they" are much more likely to be blamed than the drug manufacturer.

PHARMACEUTICAL PAPER—

(Continued from Page 445)

ing flowers is founded my belief that the investigator will solve the greatest scientific challenges that humanity has ever faced by writing opposite those dark pages of technology, which record hydrogen bombs, war-provoking missiles, and other infernal machines, those glittering pages that can be written only by the spirit of man.

PRESIDENT'S PAGE



Fellow Pharmacists:

The seventy-fourth Annual Convention in Aberdeen has given us several recommendations to be accomplished. A convention is the climax of a years work. It is the peak we strive for in that year. We cannot relax but begin early on what has to be done for the coming year.

Aberdeen provided us with a wonderful convention through — excellent entertainment and constructive business sessions — much was accomplished.

Arrangements have begun for the seventy-fifth convention to be held in Rapid City. All members will be kept informed on the business meetings held by your officers so that full understanding of all decisions are kept current.

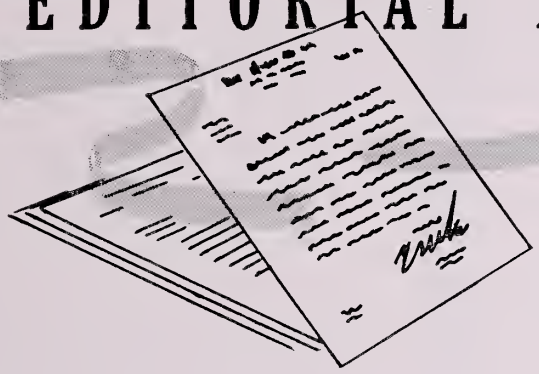
I urge all of our members that can attend the National Association of Retail Druggists Convention in Denver to make plans now. All local associations will be contacted to send delegates along with your State Association. Let us begin arranging for a big turn-out.

Sincerely,

Albert H. Zarecky

President

EDITORIAL PAGE



A REASSURING HAND

The report of the President's special panel to study aspects of the use of chemicals and drugs as food additives has been made public. The panel's recommendations should be reassuring to Americans left confused in the wake of the current controversy over chemicals in foods.

The controversy over possible cancer-producing chemical substances added to food had its start with passage of the Food Additives Amendment of 1958. The amendment was endorsed by the chemical industry which had, as early as 1955, recommended strengthening of the Federal Food, Drug and Cosmetic Act as a further safeguard for all of us. One of the main principles covered by the 1958 amendment placed the responsibility on industry of proving that an additive is safe under the conditions of its intended use. As part of the responsibility, industry would furnish the Food and Drug Administration with all the scientific information on which its additive evaluation was based.

However, just before the amendment became law, the so-called Delaney "cancer clause" was tacked on as a requisite to passage. The chemical industry does not object to the intent of the clause — protection of the public from increasing cancer risks through the diet. But it does take issue with the manner of its phrasing which makes no allowance for the exercise of scientific judgment.

Under the clause, any chemical compound, regardless of the quantity, found to induce cancer in test animals must not be used as a food additive in the human diet. Because new additives are evaluated through animal testing, the President's panel points out that "in practice the prohibition is based on the assumption that a substance which increases the incidence of cancer when included in the diet of animals at any dose level may increase the incidence of cancer when included in the diet of man even when present in amounts detectable only by the most sensitive analytical techniques."

The panel made various recommendations supporting its belief that practical and beneficial enforcement of the Delaney clause must adhere to "the rule of reason' based on scien-

tific judgment . . . ." These recommendations, in part, are:

Appointment of a scientist advisory board to the Secretary of Health, Education, and Welfare, the Federal agency charged with administering the food additives amendment. The board, on the basis of the latest scientific information available, would evaluate the results of scientifically testing a new additive for safety before recommending to the Secretary that it be approved or disapproved for human use. The same procedure would be followed for any human food additive, whose safety in the light of new scientific knowledge may be doubtful, despite approval for its use prior to the passage of the Food Additives Amendment.

Appropriate modification of any existing food additive legislation that does not permit the approval or disapproval of an additive consistent with the available scientific evidence.

Increased study or representative cancer-causing substances to determine their effects on both man and animal.

Expanded Government and industry research to find additional safe and effective materials for food production and processing.

These recommendations, in effect, place one of the major considerations in protecting the nation's food supply — and consequently the public's health — in the hands of scientists — where it rightfully belongs.

FREEDOM . . .*

Freedom is a man at the lathe, or at the desk, doing the job he likes to do, and speaking for himself. It is a man in the pulpit, or on the street corner, speaking his convictions.

It is a man puttering in the garden in the evening, and swapping talk with his neighbors over the fence. It is the unafraid faces of men and women and children at the beach on Sunday, or looking out of the car windows speeding along a four-lane highway.

It is a man saying, "Howdy, stranger," without looking cautiously over his shoulder. It is the people of the country making up their own minds. It is a soprano singing "The Star-Spangled Banner" a bit off key, and meaning it.

* Adapted from **Westinghouse News.**

(Continued on Page 454)

OUR SECOND HALF-CENTURY

now, with your heating plant down, is the time to check it for flaws

'Heating plant check-up' may not seem to be the appropriate topic for hot August days — nevertheless it is highly important. A simple flaw, subject to correction now, could later be the cause of a tragic fire in your store if undetected.

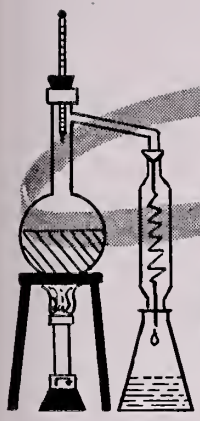
And with your heating plant check-up, make an insurance coverage 'check-up', too! Then let the experienced Druggists Mutual fieldman in your area go over it with you.

★

SERVING DRUGGISTS IN 10 MID-WESTERN STATES

DRUGGISTS MUTUAL INSURANCE COMPANY

HOME OFFICE ALGONA, IOWA



Advances In Drug Research

DIAMOX IN THE TREATMENT OF ASPIRIN POISONING

Aspirin, one of the most useful drugs in all history, and other salicylates will take the lives of 75 American children under five years of age this year. Physicians will speed the recovery of an estimated 35,000 additional poisoning victims in this age group whose parents underestimate the power of aspirin and overestimate the discretion toddlers use in keeping away from it. On hand to help with the life-saving job will be a synthetic drug originally developed for the treatment of congestive heart failure and glaucoma.

Aspirin is a weak acid that is rapidly absorbed by the body but which resists the efforts of the body metabolism to break it down. It is estimated that 70 to 80 per cent of aspirin is slowly eliminated in the urine as unmetabolized salicylate.

Overdoses of aspirin upset the normal acid-alkali balance of the body and set off a series of symptoms that can include ringing in the ears, dizziness, headache and deafness. The most characteristic symptom is a rapid and deep breathings, resulting from the stimulation of the respiratory system. Other frequently seen symptoms in aspirin poisoning cases are nausea, vomiting, lethargy, and in severe cases, stupor and coma. There also seems to be a tendency to bleed among aspirin poisoning victims, possibly due to an inability to utilize vitamin K, the antihemorrhagic factor. Death, if it comes, is usually due to respiratory failure, following the failure of the body to compensate for the presence of the salicylate. Fortunately, for every child who dies of aspirin poisoning, there are hundreds who survive.

Because there is no way medical science now has at its disposal to help the body break up the salicylate, depriving it of its poisoning effect, the efforts of doctors in treating toxic overdoses is concentrated on getting the unmetabolized salicylate out of the body as soon as possible.

One of the most recently reported methods of doing this is by the use of a synthetic drug, Diamox acetazolamide. A distant relative of the sulfa drugs, Diamox was developed by Lederle Laboratories Division, American Cyanamid Company, for use in eliminating excessive body fluids in congestive heart failure and to decrease fluid pressure in the eyeball, a symptom of glaucoma.

Medical investigators at Baltimore's city hospital reasoned that Diamox is known to produce prompt alkalinization of the urine, and that since alkalinazation of the urine greatly enhances the excretion of salicylate, the drug might be useful in treating aspirin poisoning victims.

The Baltimore investigators, Dr. Richard C. Fuerstein, Dr. Laurence Finberg, and Evelyn

Fleishman used Diamox and the long-accepted fluid therapy in a study of 45 severe aspirin poisoning cases seen in their pediatric service between 1953 and 1959. The patients averaged about three years of age. Twenty-seven of them were treated with Diamox and fluids, while the remainder were treated with fluid therapy alone.

Standard practice in aspirin poisoning cases is to flush out the stomach, eliminating any unabsorbed drug that remains there. This is practical only in cases where it can be done promptly following the ingestion of the aspirin. Fluids are administered orally or by infusion to stimulate the flow of urine and the salicylate it contains. However, in severe cases physicians often supplement this method by other measures.

The Baltimore investigators found that the use of Diamox resulted in much more rapid elimination of salicylate than the use of fluids alone. In 24 hours, 18 of 22 of the drug-treated group had salicylate levels in the blood below 10 mg. per ml. of serum, while only 2 of 14 treated by fluids alone were below this level. After 36 hours, half the latter group still had high salicylate levels, whereas all but one of the drug-treated group had levels below this reference point. The difference, the workers said, was striking. (Blood determinations were not made on nine patients.)

In general, the investigators said, the recovery of the patients closely paralleled the decrease in salicylate in the blood. In several of those treated with Diamox the rate of salicylate elimination matched or exceeded that reported to have been produced by use of the artificial kidney.

The development of the artificial kidney in 1951 gave doctors a faster method of treating severe aspirin poisoning. The victim's blood is routed through the artificial kidney where the salicylate is removed faster than the human kidney can remove it. The "purified" blood is then returned to its normal course through the body. Another method now sometimes used to remove very toxic concentrations of salicylate from the blood is by exchange transfusion. This is a process whereby a victim's total blood supply is exchanged for a new supply from a blood bank.

The Baltimore physicians point out that the use of Diamox, by injection, has the important advantage over the use of the artificial kidney or exchange transfusions in that it is a much simpler therapy to administer. They also indicated that because Diamox enhances the excretion of sodium, its use enables larger amounts of sodium to be safely administered with fluids during aspirin poisoning therapy.

Depending upon the stage to which severe poisoning has advanced, doctors may administer chemicals such as sodium in various forms to help the body compensate for the acid-alkali imbalance caused by the aspirin. Sodium raises the alkalinity of the urine, enhancing excretion of salicylate. Supplementary amounts of vitamins K and C are also commonly used to compensate for deficiencies attributable to the salicylate. Potassium may be needed to make up for the increased elimination of the body's normal supply during therapy. These measures are often especially important in treating children, whose mechanism for the elimation of salicylate is less efficient than that of adults.

While the Baltimore hospital physicians found Diamox safe and effective in treating aspirin poisoning victims, they emphasized that for most cases fluid therapy alone is sufficient. They cautioned that the drug should be used only under the supervision of experts in the body's acid-alkali balance, and they recommended frequent blood determinations of this balance during Diamox therapy.

The physicians urged continued public education on the dangers of aspirin poisoning and cautioned parents not to postpone medical treatment for children whom they suspect have taken an overly large dose of the drug. Prompt medical attention can mean the difference between life and death.

SINGLE DOSE PRODUCT FOR PINWORM INFECTION

Parke, Davis & Company recently announced development of a new drug that is more than 95 per cent effective in eliminating pinworm infection with a single dose.

The new drug, Povan, (Pyrvinium Pamoate) climaxes nine years of research and screening of more than 5,000 compounds by the world-wide pharmaceutical firm, and may well contribute to the removal of pinworm as a health problem.

Clinical trials with more than 500 children in the U. S. and Canada show the curative value of a single dose of Povan was virtually 100 per cent effective within one week, the company said.

Pinworm is an intestinal infection which disregards socio-economic levels and is prevalent in approximately 20 per cent of the population of the United States. World-wide incidence of the infection is estimated at more than 200 million children and adults.

Povan is composed of pyrvinium and pamoate radicals. The pyrvinium part of the drug belongs to a class of polymethine dyes useful as color sensitizers in photography. The pamoate is derived, following a series of chemical reactions, from coal tar. The pamoate has the advantage of being able to travel down the gastro-intestinal tract directly to the sites where the worms lodge without being absorbed into the blood stream.

Although the infection can be transferred readily from the child to all members of the family, it is still most common in children, thumb-suckers and nail-biters being most susceptible. The typical symptom is anal itching and although not a dangerous disease when uncomplicated by other conditions, infected children become irritable.

Pinworm infection may be transferred from person to person by direct contact, by handling contaminated objects; and by breathing air-borne worm eggs as a component of house dust.

Eggs from the worms (estimates place the egg-producing potential of pinworms at from 4,500 to 20,000 eggs per worm) contaminate the bedclothes and even the air from which others acquire the infections. For this reason, treatment of all members of a family where one or more is infected is considered the most effective means of eradications.

Cleanliness, physicians agree, is one of the main factors in controlling the spread of pinworm infection: hands should be washed before meals; morning showers taken to wash away eggs deposited during the night; daily washing of bedroom and bathroom floors; and daily changes of bedding.

Sanitary precautions alone have been inadequate in eradicating the infection. Povan, according to Parke-Davis, has proven effective and may well give the physician the most efficient medicinal agent yet available.

ALPHA-METHYL DOPA RESEARCH BACKGROUND

Conclusive evidence that the compound alpha-methly dopa blocks the normal production of certain chemicals in the body represents a break-through which may ultimately bring improved therapy for certain diseases.

Investigative studies with the compound are still in a preliminary stage. One barrier has been overcome: It is possible to develop a compound which controls a key reaction in body chemistry.

A chain of scientific discoveries starting in the early years of the century set the stage for the development of alpha-methyl dopa in the Merck Sharp & Dohme Research Laboratories.

In 1950, Merck scientists were conducting several reasearch projects with compounds related to amino acids. One project, involving the study of high blood pressure, stemmed from a detailed review of the disease with the late Dr. Marcel Goldenberg of Columbia University, a well-known authority on hypertension.

In the normal course of the body's endless series of chemical reactions, the amino acid tyrosine is converted into norepinephrine (nordrenalin) and epinephrine (adrenalin). Both substances are produced in the body's adrenal glands. Both are believed to be closely associated with high blood pressure.

One step in the body's production of these substances is the production of an intermediate known as dopa. Merck scientists hoped to find a compound to prevent dopa from undergoing a change in structure called decarboxylation. This process leads to the formation of norepinephrine.

A research team composed of Drs. Karl Pfister and Gustav Stein, chemists, and Dr. T. L. Sourkes, a biochemist, was successful in altering the structure of dopa to obtain the derivative alpha-methyl dopa. They had high hope that this compound held the answer to their problem.

Test tube results confirmed their hope. Alpha-methyl dopa was highly active in preventing the decarboxylation of dopa. But animal tests were inconclusive, probably because there was no accurate method of measuring the activity of the compound.

For nearly six years, the Merck Sharp & Dohme Research Laboratories continued to supply biological investigators with alpha-methyl dopa and related compounds to see if some sort of assay could be developed to verify test tube results.

The barrier was cracked in 1957 by two scientists at the University of Heidelberg in Germany, who were able to show interference with the effects of dopa in animals. The following year came support from their findings from another German team at the University of Frankfurt.

Their findings did not establish the compound as medically valuable in treating high blood pressure. However, they did demonstrate the activity of the compound in animals, where it indeed blocked the formation of norepinephrine.

The announcement of a compound which could control at least some of the body's natural chemical reactions was greeted with deep interest by scientists of the National Institutes of Health. A team of biochemists and clinicians from the National Heart Institute, including Dr. Sidney Udenfried, Albert S. Sjoerdsma, John A. Oates, Jr., Louis Gillespie, Jr., and Richard Crout, saw a possibility of more effective therapy for hypertension.

They promptly appealed to Merck for supplies of alpha-methyl dopa and for data on toxicity. Merck responded, and the NHI scientists launched their studies.

Successful animal testing led to evaluation studies with two patients suffering from high blood pressure. The results were highly encouraging, showing that alpha-methyl dopa prevented the decarboxylation of dopa in humans and thereby blocked the formation of epinephrine.

Scientists at the National Heart Institute also extended their studies to carcinoid patients. The carcinoid tumor may be formed in the stomach, small intestines, appendix or colon. It is marked by the excess production of the substance serotonin.

The NHI investigators hoped that alpha-methyl dopa would block the production of serotonin. Again they met with success.

So far investigative work has been too limited to establish the therapeutic usefulness of alpha-methyl dopa in either hypertension or carcinoid tumor.

With proof of a new biochemical concept, however, both Merck and NHI are broadening their studies. Research production of the compound has been stepped up, and toxicity studies have been intensified to determine what unwanted side effects may accompany admininstration of the compound over extended periods.

EDITORIAL PAGE—

(Continued from Page 450)

It is the free choice a man has to select his physician, pharmacist and hospital. It allows him the responsibility for planning for his old age with dignity and respect without interference.

Freedom is the air you breathe and the sweat you sweat. It is you, and 175 million people like you, with your chins up, daring anybody to take it away from you.

PHARMACY STUDENTS RECEIVE AWARDS

Five outstanding pharmacy students have been presented awards at South Dakota State College.

Rodney Nickander, Madison, Minnesota and Robert Rotschafer, Worthington, Minnesota were presented awards sponsored by Merck and Co., New Jersey pharmaceutical manufacturers.

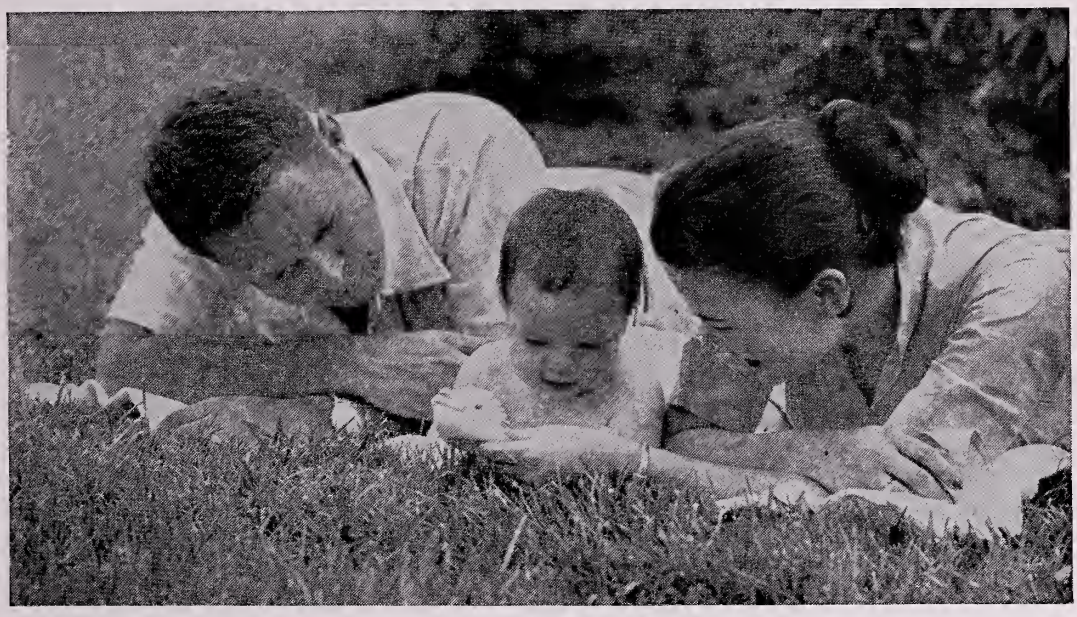
Neil Ramlo, Hendricks, Minn., received an award sponsored by Bristol Laboratories of New York.

A Rexall trophy sponsored by Rexall Co., of Los Angeles, was presented to Richard Manthei, Albert Lea, Minnesota.

Donald Lord, Milroy, Minnesota, received a gold medal award sponsored by Lehn and Fink Co., New York, New York.

In addition to these awards 18 pharmacy students were recognized for superior and high scholarship at a recent Honors Convocation on the State College campus.

How to Send Your Baby to College on $9.50 a Week



A good college education today costs as much as $65 a week. But, the same education can be bought with much less financial strain if you start now, putting $9.50 a week into U. S. Savings Bonds. At college age there will be more than $11,000—and over $2,750 of it will come entirely from interest. That's like getting a whole year of college free.

HERE'S WHY U.S. SAVINGS BONDS ARE SUCH A GOOD WAY TO SAVE

• You can save automatically with the Payroll Savings Plan. • You now earn 3¾% interest at maturity. • You invest without risk under a U. S. Government guarantee. • Your money can't be lost or stolen. • You can get your money, with interest, any time you want it. • You save more than money—you're helping your Government pay for peace. • Buy Bonds where you work or bank.

NOW every Savings Bond you own—old or new—earns ½% more than ever before.

You save more than money with U. S. Savings Bonds

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CONVENTION ELECTS ZARECKY: SELECTS RAPID CITY

Albert H. Zarecky of Pierre, was elected president of the South Dakota State Pharmaceutical Association for the year 1960-1961. Zarecky was elected at the 74th annual convention of the Association held in Aberdeen, June 19-21.

Assisting Zarecky in the administration of Association affairs are: First Vice President Philip E. Case of Parker; Second Vice President L. B. Urton, of Sturgis; Third Vice President Wayne Shanholtz, of Mitchell; Fourth Vice President Melvin C. Holm, of Redfield; Secretary, Bliss C. Wilson, of Pierre and Treasurer, J. C. Shirley of Brookings.

Rapid City was selected to be the host city for the 1961 convention. The local Pharmaceutical society of Rapid City will recommend to the executive committee the time at which the convention will be held at a later date.

PHARMACY STAFF ATTEND NATIONAL SEMINARS

Four seminars concerned with Pharmaceutical education, research, and College of Pharmacy administration were attended by members of the staff of the Division of Pharmacy, South Dakota State College during this summer. Attending the meetings of the American Society of Pharmacognosy held at the University of Colorado, Boulder, June 30 to July 2 was Dr. Kenneth Redman, Professor of Pharmacognosy.

Dr. Redman also represented the Division of Pharmacy at the American Association of Colleges of Pharmacy meeting on the University of Colorado campus July 3 to 4. Other staff members attending this meeting as well as the Pharmacy teachers seminar, July 5 to 9 on the University of Colorado campus were Dr. G. C. Gross, Professor of Pharmacology; Dr. Gary Omodt, Assistant Professor of Pharmaceutical Chemistry; and Dr. Norval E. Webb, Associate Professor of Pharmacy.

Dr. Harold Bailey, Director of Dental-Pharmacy research attended a seminar on dental caries research at the National Institute for Dental Research, Bethesda, Maryland.



RECENT TRENDS IN SURGERY FOR HEARING LOSS DUE TO OTOSCLEROSIS

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Department of Otolaryngology and Maxillofacial Surgery
University of Iowa
Iowa City, Iowa
and
Lothar Kaul, M.D.
Sioux Falls, South Dakota

Although abortive attempts aimed at the surgical correction of otosclerosis were made before the turn of the past century, it was not until the 1930's that attention was focused intensely upon this subject by the successful work of Doctor Julius Lampert[1] of New York. To provide a new pathway through which sound could be transmitted to the inner ear, the non-functioning ossicular chain was short circuited by making a window (fenestra nov ovalis) into the lateral semicircular canal. (See Figure ♯1) Sound impinging upon this new membranous opening was carried through the lateral canal of the vestibular labyrinth to the cochlea. With this procedure many excellent results were obtained and often individuals with poor hearing were able to hear well again.

However, this procedure soon was showed to have certain shortcomings. Among these was the fact that the patients upon whom the fenestration operation was contemplated had to be screened carefully because if there was evidence of inner ear hearing loss accompanying the otosclerosis (as manifested by decreased bone conduction acuity in the high frequencies) the patient was a poorer candidate for this type of surgery. Many otos-

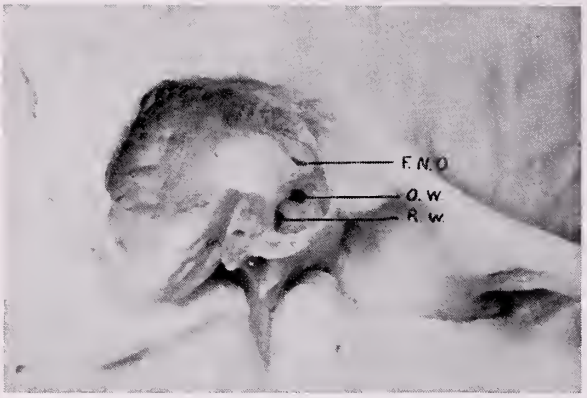


Figure #1.

Photograph of the temporal bone as seen from the lateral aspect showing the lateral semicircular canal exposed and a window (fenestra nov ovalis) into the canal. (F.N.O.) O. W. — Oval Window. R. W. — Round Window.

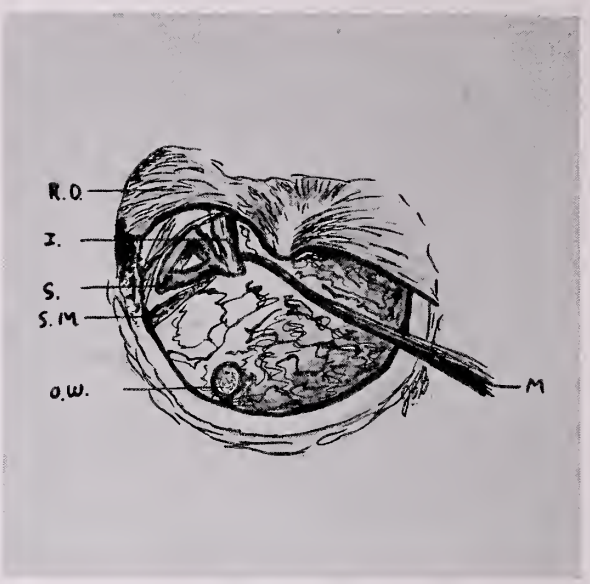


Figure #2.

Schematic illustration of the middle ear space as seen through the ear canal showing mobilization of the stapes at the incudo-stapedial articulation. R. D. — reflected drum. I. — incus. S. — stapes. S. M. — stapedius muscle. O. W. — oval window. M. — mobilizing instrument.

clerotics had to be denied surgery for this reason. This was a highly technical operation for which the patient had to be hospitalized at least ten days to two weeks. The post-surgery period was marred frequently by pronounced, severe vertigo. Ideally the operation provided a clean, epithelialized mastoid cavity which was dry. However, this cavity required special care for the rest of the patient's life and precluded swimming or immersion of the ear. It was prone to break down and discharge if not cared for properly. Although the functional results were usually good, the postoperative air conduction curve could not be expected to be better than about fifteen decibels below the pre-operative bone conduction level. (See Figure #6) Unfortunately many of the fenestra nov ovalis closed after variable intervals with the result that the hearing level became poor again. Numerous methods were advocated to prevent closure of the fenestra with variable success.

In an article published in April 1952 Doctor Samuel Rosen[2] of New York revived interest in the direct attack upon the ossicular chain to mobilize the stapes so that sound could be transmitted through the middle ear to stimulate the inner ear. (See Figure #2) This operation was successful if the otosclerotic process was limited and could be broken easily, but if there was widespread or thick otosclerosis, the operation was less successful. Encouraging reports by different observers[3, 4, 5, 6, 7, 8] of success with the stapes mobilization operation were seen in the literature for several years thereafter. However, after the results of long-term followup studies were available for critical scrutiny, it became apparent that simple mobilization of the stapes alone gave prolonged success in only 35 to 40 percent of the cases operated upon. Too often the patient who appeared to have a good function immediately after surgery showed regression of the hearing with time, indicating that the stapes again became fixed and was not free to vibrate.

The failure of stapes mobilization through indirect pressure transmission to the footplate stimulated the development of various procedures which utilized manipulation of the stapes itself. These included different techniques of mobilization at the head, through the incus,[9] trans-tympanic mobilization with sound or other pressure and mobilization through the crura.[10, 11] These procedures met with some increased success but all were followed by a high rate of refixation of the footplate. The shortcomings of these procedures led to direct manipulation of the footplate at its periphery with chisels or picks.[12] Later it was found that even greater improvement was achieved, at least temporarily, by boring holes in the stapedial footplates.[13] (See Figure #3) Fractures of the crura[14] of the fixed portion of the stapes and

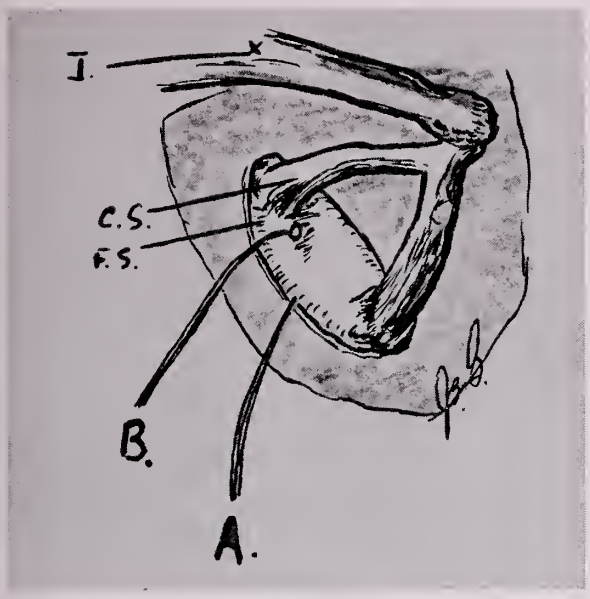


Figure #3.

Illustration showing the incus, stapes and oval window. I. — incus. C.S. — crus of stapes. F.S. — footplate of stapes. B. — location of footplate fenestration. A. — mobilization of the footplate at the periphery with chisels or picks.

fracture or pulverization[15] of the footplate were all tried with variable success. (See Figure #4) Unfortunately, as in stapes mobilization, the favorable results with most of these techniques were inconsistent and often only temporary due to refixation of the footplate. Because of the failures of this type of surgery, interest was stimulated toward a more direct attack by removal of the stapes and replacement thereof with a prosthesis. This mode of treatment had been feared in the past because of the ever present danger of trauma to the inner ear and because of the potentiality of infection in the ear and the brain. Within the past two and one-half years outstanding and highly successful results have been achieved through the impetus of stapes replacement work in various parts of the world. The techniques of replacement of the stapes to restore hearing function which today have given the most improvement will be discussed in brief detail hereafter.

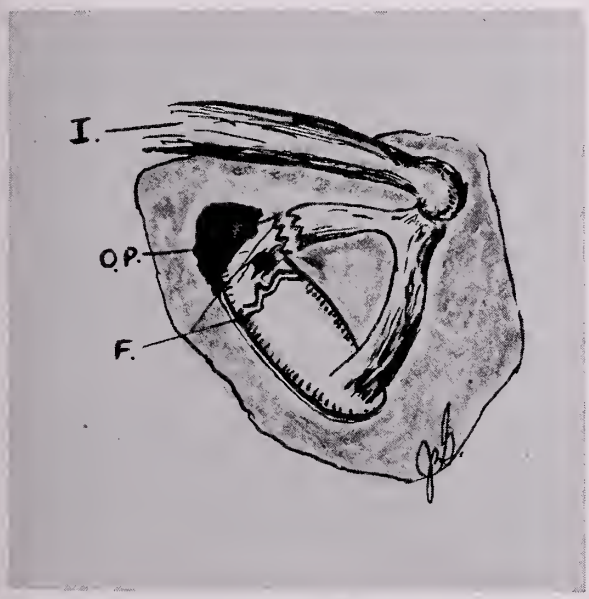


Figure #4.

Fracture of the stapes crus and footplate to restore mobility. O.P. — large otosclerotic process. I. — incus. F. — fracture lines.

1) Removal of the head and crura of the stapes and replacement of these with a plastic (nylon or polyethylene) tube or a metal tamping rod.[16] With this procedure the mobility of the ossicular chain was partially restored by having the metal or plastic tamping rod impinge upon the footplate of the stapes to transmit sound to the inner ear. This provided a measure of improvement but the overall results were discouraging. Except in a few places this procedure has not won wide acceptance.

2) Removal of the entire stapes, including the head, crura and the footplate and replacement thereof with a prosthesis. Several variations of this type of surgery have been advocated, mostly with good results. The first documented operation in recent times wherein the stapes was removed completely was performed by Doctor J. Shea,[17] of Memphis about three years ago. In his first operation the stapes was removed and the footplate was replaced by a skin graft. The crura and head of the stapes were replaced by a nylon strut. Later this technique was improved by using a vein graft to cover the oval window.[18] The head and crura of the stapes were duplicated by a small length of polyethylene tubing. (See Figure #5) The results with this operation were highly gratifying and with it the post operative hearing curve could be made to approximate the pre-operative bone conduction level (closure of the air-bone gap — See Figure #[6]) Although it has been reported to occur, the frequency with which the oval window closes after this procedure is small. One complication which has been noted with the vein graft-polyethylene strut technique of Shea is the fact that in a small percent of

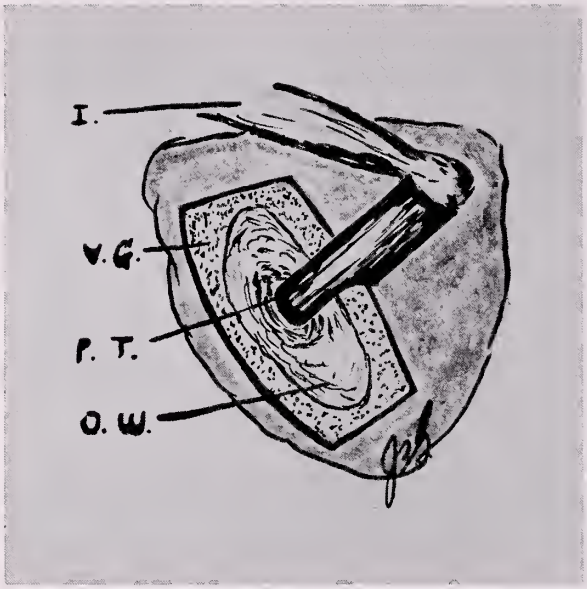


Figure #5.

Vein graft-polyethylene tube stapes replacement technique of Shea. I. — incus. V.G. — vein graft. P.T. — plastic tube. O.W. — oval window.

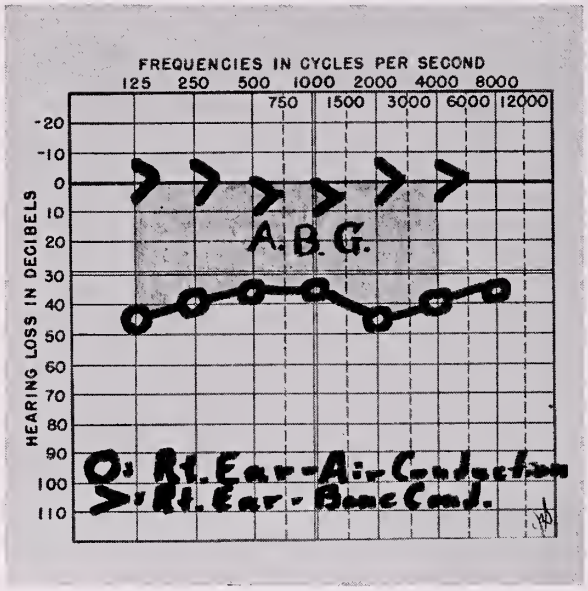


Figure #6.

Audiogram showing conduction type hearing loss with definite air-bone gap. (A.B.G.) as might be seen in otosclerosis.

the patients the polyethlene tube has become dislodged postoperatively with the result that the hearing level regresses. This necessitates another operation to restore the continuity of the ossicular chain. To obviate the possibility of dislocation of the polyethylene tube from contact with the incus and vein graft, other techniques were developed in which the strut was fixed to the incus. These included the use of a small wire brace which attached the plastic tube to the long process of the incus. Polyethylene struts were made of various lengths to insure a snug fit to prevent dislocation of the tube.

In a different technique a piece of fine tantalum or stainless steel wire was used to bridge the gap between the incus and the vein graft. A knot at the distal end of the wire pressed upon the vein graft and transmitted sound to the inner ear. This wire was crimped onto the incus so that it did not come off. Schuknecht,[12] Kos,[19] House[15] and others have developed the wire strut technique further by making a new stapes out of a piece of wire to which is fastened a replacement footplate composed of a piece of some homogenous or exopenous substance. The plug footplate is placed in the oval window after the entire stapes has been removed and the other end of the wire is attached to the long process of the incus. Many modifications of this technique have appeared utilizing pieces of gel foam, fat, conjunctiva, fascia, vein or other tissue to replace the footplate. These all have produced good results and the studies which are available, some showing followup of the sixteen months or more, indicate that the new stapes remains movable indefinitely. However, long-term studies will be needed to ascertain whether eventually the otosclerotic process does invade the prosthesis to interfere with function. An interesting study is now being conducted by Doctor Eugene Grandon[20] at the USVA Hospital in Iowa City, Iowa. He has modified the stapes replacement operation by making a new footplate out of Ostamer,® a synthetic bone glue. The remainder of the stapes is fashioned from fine wire as in the other procedures noted above. The apparent advantage of Ostamer is that it remains as an inert foreign body in the oval window and does not become a part of possible closure of the oval window should there be bone regeneration. Patients upon whom the Ostamer prosthesis has been used have been followed for over one year and have showed no evidence of regression in the hearing acuity.

COMMENT. With the newer surgical procedures which concentrate attention upon the site which the otosclerotic process attacks primarily, the footplate of the stapes, very

encouraging results have been obtained. It is still a bit early to prognosticate the absolute long-term results of some of the present methods of surgery. However, the majority of the patients who have been operated upon at the University of Iowa Hospitals, utilizing the vein plug stapedoplasty, (See Figure #7) have showed excellent and pro-

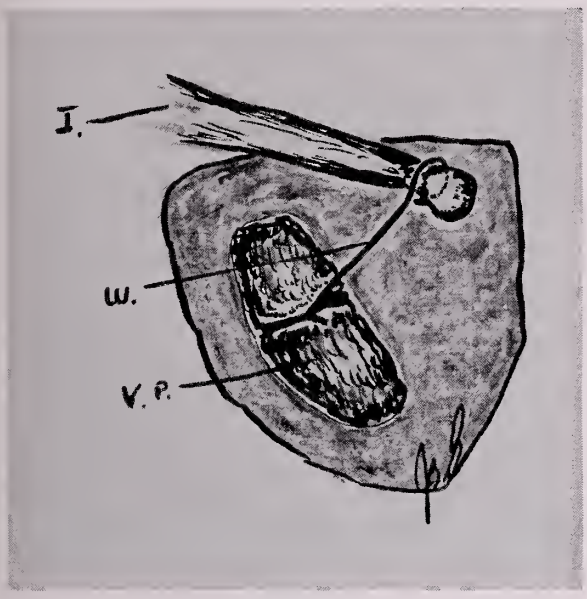


Figure #7.

Vein plug stapedoplasty showing replacement of the stapes with a prosthesis. I. — incus. W. — fine wire. V.P. — vein plug in the oval window.

longed return of hearing function. To date the regression rate of the stapedoplasty procedure utilizing a wire strut to which is attached a plug of vein has been less than two percent. With this procedure it has been possible to close the air-bone gap in the majority of instances with definite improvement in the hearing. It has been found that the stapedoplasty operations can be used in patients who would not have been candidates for the fenestration operation and for the earlier stapes mobilization operations. With the stapedoplasty the prolonged postoperative fenestration hospitalization is avoided, the average stap in the hospital being about 36 hours. The entire procedure is done under local analgesia. There is very little vertigo after surgery and the patient is able to resume normal activities within a few days. Because the operation is all done through the external auditory canal, the skin flap being replaced at the conclusion of the operation, it is possible for patients who have had the newer operations to go swimming, immerse the ear and to resume normal activities as desired after healing has taken place.

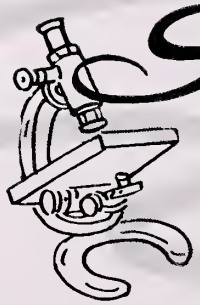
It has become apparent after careful observation of the patients upon whom the stapedoplasty operations have been performed that the success of the operation wherein the stapes including the footplate are removed depends in large measure upon the completeness of removal of the footplate. When a portion of the footplate is left in the oval window, the liklihood of refixation of the prosthesis in the oval window is increased.

Although with the earlier operations for this disease large accumulations of gone formation about the footplate of the stapes were thought to prevent difinitive attack upon the otosclerotic process, it has been found that the amount and the size of the new bone are by no means a contraindication or a deterrent to successful otosclerosis surgery. By using the highly refined per-microscopic techniques along with the specially developed, delicate intra-aural instruments which have been produced in the past few years, intra-aural surgery for otosclerosis has been advanced to a tremendous degree. The outlook for development of this form of functional reconstructive surgery in the future appears to be most bright.

The only untoward effects, other than transitory mild vertigo immediately postoperatively, which have been noted in the stapedoplasty patients is very occasional hyperacusis, and some temporary depression of hearing acuity[21] in the high frequencies. The former effect has been attributed to the fact that the stapedius muscle has to be severed from its attachment to the stapes in order to allow approach to the footplate of the stapes. The protective effect of the muscle in loud noise is missing postoperatively. This difficulty has subsided spontaneously in the few instances it has appeared. The latter effect is attributable to the fact that with removal of the footplate of the stapes there is mild compression of the structures of the inner ear. This is followed by transitory decrease in function most noticeable in the higher frequencies. This has improved with time.

CONCLUSIONS. With the development of

(Continued on Page 479)



Scientific PAPER

CINEROENTGENOGRAPHY

by
Joseph Jorgens, M.D., Ph.D., Norman Blank, M.D., Heino Alari, M.D. and Ilmar O. Kiesel, M.D.
Minneapolis, Minnesota

During the last fifty years, considerable experimentation has been directed toward recording the fleeting fluoroscopic image on moving picture film. Until recent years, methods of cineroentgenography have been limited to the experimental laboratory because the recording of satisfactory images on film required excessive x-ray dosage to the patient.[1, 5]

The image amplifier, recently developed, produces a brighter fluoroscopic image which can be recorded photographically without excessive x-ray exposure to the patient.

During the last three years we have had the opportunity of evaluating the usefulness of cineroentgenography in our routine diagnostic work.

EQUIPMENT

Our equipment consists of a standard cineroentgenographic unit (Westinghouse Cine Fluorex) with automatic density control circuits. The camera utilizes sixteen millimeter film and exposes fifteen or thirty frames per second. Fifteen frames per second has been adequate for almost all of our work, although thirty frames per second is better for studying the movements occurring during swallowing.

The film used is Kodak Linagraph shell burst film, packaged in one hundred foot

* Presented at the 79th Annual Meeting of the South Dakota State Medical Association, May 17, 1960 in Aberdeen.

rolls. Each one hundred foot roll provides approximately four minutes of filming which is adequate in time for three to five patients by our present technique. Development of the rolls is carried out in our regular darkroom. After exposure, the roll of film is wrapped about a stainless steel square* which will fit the standard twenty gallon developing tank. No special solutions are required, although developing and fixing times are somewhat longer than for regular x-ray film.

We limit the radiation dose to the patient to about the same dose which is delivered to most patients during a conventional gastrointestinal examination.

Using only the image amplifier we can reduce the dosage delivered to the patient by sixty percent. However, the cineroentgenograph operates at eight to thirty milliamperes and therefore delivers a high dose of from ten to fifty roentgens per minute to a small field. This means rigorous monitoring of the dose to the patient is necessary. Ionization chambers for this purpose are available. Because of this high dose per minute, a complete fluoroscopic examination on the cineroentgenograph is not wise.

CLINICAL MATERIAL

Over two thousand cineroentgenographic examinations, covering a wide range of routine diagnostic procedures, including barium studies of the gastrointestinal tract, contrast studies of biliary and urinary tract, arteriography, cardiac evaluation, bronchography, joint and spine motion, myelography and pneumoencephalography, have been performed in our department.

About one thousand of these examinations have been devoted to the upper gastrointestinal tract because the cineroentgenographic method proved from the beginning particularly useful in this area.

THE USES OF CINEROENTGENOGRAPHY

General Uses

Since the cineroentgenogram is a filmed record of fluoroscopy, it is of value in those areas and situations in which fluoroscopy is superior to standard roentgenography. We have found cineroentgenography of most value in the study of contracting and expanding organs, such as the stomach and the heart. The study of the movement of the bones at various joints has been interesting, but as yet the study has not added much useful information to the clinical picture. Its medicolegal value is potentially great, however. We have collected studies of the urinary tract for teaching purposes, but have had limited experience on a wide scale in this area.

Pharynx and Esophagus[6, 7]

The rapid movement of the oral pharynx and upper esophagus, during swallowing, makes this region particularly suitable for examination by the cineroentgenographic technique.

By means of cineroentgenography we are diagnosing esophageal varices more frequently and with more confidence than previously. In the past, the deformity of the esophageal wall, caused by varices, has been difficult to see fluoroscopically and equally difficult to record consistently on roentgenograms. We believe that our diagnosis of esophageal varices is more accurate now because we can visualize transient deformities caused by the varices during the entire expansion-contraction cycle of the esophagus.

Small changes in peristaltic activity are better appreciated on the cineroentgenographic study than on standard roentgenograms. The deformity of hiatus hernia is less likely to be misinterpreted by the cineroentgenographic method. The difficult differentiation of the esophageal carcinoma from esophagitis is only occasionally aided by the movie film sequence.

Stomach and Duodenum[8]

We use cineroentgenography of the stomach and duodenum as a second procedure when a repeat fluoroscopic examination is indicated by the presence of a confusing or abnormal picture. This selection of cases is necessary in our department since the volume of gastrointestinal examinations preludes routine cineroentgenography on everyone.

In many instances we have found the cineroentgenogram is more informative than conventional spot films. The troublesome posterior wall ulcer and small polyp, often missed on routine fluoroscopy, are better appreciated on the cineroentgenogram than on routine spot films or standard radiographic views. Similarly, a localized rigidity of the antral wall is more likely to be detected by

*Cronstroms Manufacturing, Inc.
4225 Hiawatha Avenue
Minneapolis, Minnesota

observing continuously a peristaltic wave through the antrum than by observing static spot films. Also, when it is impossible to obtain pressure spot films of the posteriorly directed duodenal bulb, which lies under the ribs, a film sequence of the filling and emptying of the bulb can demonstrate occasionally a hidden ulcer niche. Furthermore, inflammatory lesions of the second and third positions of the duodenum are detected easily by the recording of the peristaltic wave through these structures. So gradually we have been substituting the cineroentgenogram for the static spot films in many situations and the information obtained is worth the extra effort involved.

Although the number of spot films we use has been reduced drastically, we always obtain standard roentgenograms of the stomach and duodenum to determine the positional relationship and the size of the organs.

The physical resolution of the cineroentgenographic film is not as great as that obtained on standard spot roentgenograms, but to the eye the projected cineroentgenogram gives an impression that considerable detail is present and the opportunity of seeing the continuous motion of a structure adds something extra of value in detecting the presence of an abnormality.

Heart[9]

The dynamic record of the pulsating contours of the heart and great vessels is of considerable value in the diagnosis of myocardial aneurysm and aortic regurgitation.

In addition, we believe the detection and identification of intracardiac calcifications within the valves and coronary vessels is facilitated by viewing the calcified structures in motion. We have had extensive experience with spot film, radiographic, roentgen kymographic, and planigraphic recording of calcifications within the heart. It is our opinion that cineroentgenography is by far the most accurate method of detecting calcifications within the heart.

Furthermore, the motion of the individual leaflet of a calcified aortic valve can be seen. This information is important in the total evaluation of a patient for surgery of the aortic valve.

DISADVANTAGES OF CINEROENTGENOGRAPHY

The major disadvantages are the restricted field size (4.75 inches in diameter), the lack of resolution on the sixteen millimeter film compared to that found on standard roentgenographic film, the bulkiness of the instrument, and the initial cost of the equipment. Our unit, including the combined standard Westinghouse Cine Fluorex and fluoroscopic apparatus, cost approximately $35,000.

SUMMARY

During the last three years we have been using a five inch Westinghouse Cine Fluorex consisting of a standard Westinghouse fluoroscope, their image amplifier, and their sixteen millimeter film camera.

On the sixteen millimeter film strips a detailed brilliant image is obtained in contrast to the dim shadows produced by the conventional fluoroscope.

The substitution of motion picture film for spot films is desirable for studying deglutition and the peristalsis of the antrum and duodenal loop. Also, there is no question that cineorentgenography is the ideal way of detecting calcifications and recording pulsations of the heart.

At this time the real disadvantages of any cineroentgenograph are the weight, the size of the field, and the cost of the equipment.

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THE INTERNIST LOOKS AT THE PROBLEM OF ESOPHAGOGASTRIC VARICES

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Massive or critical bleeding from the gastrointestinal tract is one of the serious emergencies that all too often confronts the practitioner of medicine. It must be dealt with promptly and definitevely — there is no time for procrastination, contemplation and consultation. In round figures the mortality rate, if the individual be untreated, is about 10 to 15%. Peptic ulceration of the stomach or duodenum is by far the greatest etiological offender, but esophageal varices must be seriously considered and at least ruled out before definitive treatment is considered. During the past ten years varices have received a great deal of investigative attention in many of the great research and teaching institutions. This increase in interest seems to have gone hand in hand with the progress and development of chest and vascular surgery. Much has been written that is complicated and confusing, especially for the physician who practices far from such an institution and has limited facilities with which to work. As a general rule it is to such a man that this type of case first presents itself. Not nearly as often does it first come to the emergency room of a large hospital. This is the problem we had in mind when this paper

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was written. Perhaps some relatively simple approach can be outlined using the information already available in the recent literature. No new statistics or figures will be presented — there are enough already. The few additional cases that I could add would have little meaning.

Esophagogastric varices are always found associated with increased hydrostatic pressure within the portal vein. They consist of a group of dilated, tortuous veins in the lower esophagus and the cardiac portion of the stomach. They represent an abnormally enlarged and dilated portion of the system of collateral veins which is designed by nature to shunt blood from the portal vein into the systemic venous circulation via the coronary vein of the stomach, the azygos veins and the superior vena cava. In this way a large quantity of blood which should normally pass through the liver, is shunted around it and does not have the advantage of the various processing functions of this organ. The greater the portal hypertension, the greater the amount of blood that is so shunted and the larger and more tortuous become the varices.

In addition to the portal vein, blood is brought to the liver from the systemic arterial circulation by the hepatic artery. The volume of blood carried by this artery is about one quarter of the total flowing through the liver, but it flows under a great deal higher pressure than it does in the vein. The blood from these two sources, the portal vein and the hepatic artery, eventually merges at the level of the sinusoids of the liver, passes into the central vein, the hepatic vein and thence to the inferior vena cava. In the normal liver even though the pressure in the artery is relatively very high and that in the portal vein quite low, there is little or no back flow providing the outflow through the central veins is unimpeded. Any process that partially blocks this outflow tract, either in the central vein, the hepatic vein or the inferior vena cava, causes an increase in pressure within the sinusoids and in the portal vein. Under these circumstances if the same volume of blood is to pass through the cords of liver cells, it has to do so under greater pressure because the total cross section of the venous out-flow tract has been diminished. As the blocking process progresses in degree and severity, the entire volume of blood that is brought to the sinusoids by the vein and artery cannot get entirely through the outflow tract even though the portal pressure continues to increase. Therefore there comes a point at which the blood in the portal vein begins to flow in a retrograde fashion. The volume of blood brought to the sinusoids has to be diverted in part back into the portal vein. As this happens the volume of blood coming through the artery increases in order to compensate, and more and more flows backward through the portal vein. A larger and larger volume of blood has to be handled by the collateral circulation. In other words there not only is an increase in pressure within the portal vein but also a marked increase in the volume of blood that must pass through the collaterals. Not only does a condition of portal hypertension exist but also of portal hypervolemia. Actually it is the latter, the increase in volume, that is more important than the increase in pressure. It is not really the increase in pressure that makes the collaterals dilate, but actually it is the greatly increased amount of blood that must flow through them in a given time that does the real harm. As long as this somewhat deficient compensatory mechanism can manage to get a sufficient volume of blood through the cords of liver cells there is no outward evidence of anything radically wrong. Perhaps a few spiders and some prominent veins on the abdominal wall. The patient's liver is enlarged but that seems to be the extent of the situation. It is only when the whole situation progresses to the point that an insufficient quantity of blood is being processed by the liver that liver failure becomes evident and the patient is in trouble.

There are roughly two types of circulatory defects that result in portal phyertension. Extra hepatic block and intrahepatic block. The former has to do with occlusion or stenosis of the portal vein, or the hepatic vein, outside of the liver parynchema, by thrombosis, trauma, external pressure or congenital stenosis. The intrahepatic variety is associated with the many different varieties of cirrhosis. A third variety is perhaps a little different and has to do with the increased

FIGURE I
MECHANISM AND CLASSIFICATION OF PORTAL HYPERTENSION

EXTRAHEPATIC VENOUS BLOCK
- OUTFLOW TRACK BLOCK (Efferent)
  1) Vena Cava
     a) Primary Block
     b) Increased pressure (right sided heart failure)
  2) Hepatic Vein
     a) Compression
     b) Stricture
     c) Thrombosis
- INFLOW TRACT (Afferent) Portal Vein and large branches
  1) Children
     Congenital hypoplasia, atresia, Obliteration and malformation
     Cavernomatous transformation of portal vein
     Thrombosis from umbilical vein infection
  2) Adults
     Thrombosis; from inflamation, blood stasis, and hypercoagulability of blood.
     Compression: from tumor, lymph node enlargement, and inflammatory mass.

INTRAHEPATIC BLOCK
- PRESINUSOIDAL
  1) Tiny branches of portal vein (Schistosomiasis)
  2) Shunts between small branches of portal vein and hepatic artery
  3) Wilson's Disease
  4) Biliary Cirrhosis
  5) Traumatic arterio-venous fistulae
- PARASINUSOIDAL (compression of sinusoids)
  1) Acute Hepatitis
  2) Fatty liver
  3) Biliary cirrhosis
- POST SINUSOIDAL (branches of hepatic and central vein)
  1) Laennec type cirrhosis
  2) Chronic right-sided congestive heart failure
  3) Veno-occlusive disease
  4) Hepatic vein thrombosis (Budd Chiari Syndrome)

NOTE: Rarely do any of these mechanisms occur singly except at the very onset of the disease. In the more chronic forms more than one of these mechanisms have to be considered.

pressure in the vena cava associated with certain types of heart failure such as constrictive pericarditis and tricuspid insuffuciency. This increase in pressure transmits itself to the hepatic and central veins and partially blocks the rate of outflow.

Esophageal varices are found in the lower portion of the esophagus and the fundic area of the stomach adjacent to the cardia. They can vary in degree from one or two slightly dilated tortuous veins close to the cardia, to a grapelike mass of markedly distended vessels somewhat similar in appearance to severe internal hemorrhoids as seen through the proctoscope. They may extend half way up the esophagus. The degree and duration of the hypervolemia and hypertension are determining factors. These vessels are in the submucosa with nothing between their walls and the lumen of the esophagus but a layer of mucosa. Rupture of these vessels happens really in only two ways. 1. Direct trauma by rough food or bones, or errosion by concentrated alcohol or other irritants. 2. Peptic esophagitis as a result of acid regurgitation through the cardia which has been distended by the dilated veins. It is felt that the pressure increase plays little if any part, even when exaggerated by sneezing, coughing or straining at stool. For example the pressure within the veins in the leg when the individual is in an upright position is far, far greater than in this situation, yet how infrequently do these vein rupture even when they are varicose.

FIGURE 2
CLASSIFICATION OF CIRRHOSIS
(Taken in part from "Diseases of the Liver" Dr. Leon Schiff, 1956 Edition, page 427)

PORTAL CIRRHOSIS:
1. LAENNEC'S CIRRHOSIS:
   Synonyms: Portal, alcoholic, fatty, atrophic, hypertrophic, nutritional.
2. KWASHIORKOR:
   Synonym: Malignant malnutrition.
3. MISCELLANEOUS:
   A. Portal Cirrhosis due to chemicals (CCl_4, Ph.)
   B. Portal Cirrhosis — etiology unknown

POSTNECROTIC CIRRHOSIS:
Synonyms: Toxic, Post hepatitic, Healed Yellow Atrophy, Multiple nodular hyperplasia.
1. TYPICAL (coarsely nodular)
2. ATYPICAL (portal type—diffuse)

CIRRHOSIS ASSOCIATED WITH SCHISTOSOMIASIS
BILIARY CIRRHOSIS
HEMOCHROMATOSIS
WILSON'S DISEASE

Alcohol is not the only cause of cirrhosis. The relative frequency of its reported association depends to a large extent upon the feeling of the individual who obtains the history. It is much more likely that the cells of the liver are rendered more vulnerable to direct damage by long continuel inadequate nutrition. One of the numerous varieties of hepatotoxins coming in contact with them in repeated episodes permanently knock out these already weakened cells. Alcohol is just one of these offenders. A true Laennic type of cirrhosis can be produced experimentally with only a low protein, choline free, high fat, high cholesterol diet. It is curious that in England and Scotland they find a far

FIGURE 3

THE RELATIVE FREQUENCY OF THE VARIOUS TYPES OF CIRRHOSIS IN DIFFERENT PARTS OF THE WORLD

	Scotland	Mayo Clinic
Alcoholism	9%	64%
Syphilis	1%	8%
Postnecrotic Infection Hepatitis	22%	4%
Hepatotoxins	4%	1%
Other Causes	16%	0
No Etiological Factor Discovered	48%	19.6%

smaller proportion of cirrhosis that they can attribute to alcohol than we do in this country. One of the latest series of statistics admitted to only 6% percent of their cases being from this cause.

In considering what we do about these esophogastric varices, three therapeutic problems present themselves. What to do before they bleed, while they are bleeding and after they have bled. When a patient is suspected of having cirrhosis, no matter what the cause, or of having some other condition which might produce portal hypertension, a decided effort should be made to determine whether he has varices and if so to what extent. If the liver is enlarged, a needle biopsy may be very helpful in determining what type of disease is present. This, however, is not absolutely essential. The usual liver function tests that can be done in any well equipped laboratory will probably serve instead. Bromsulphalein, serum proteins, cephalin flocculation, prothrombin time and alkaline phosphatase will give a very good idea of the degree of functional impairment. The quickest and easiest way of knowing definitely whether the varices are present is to view that area with the open, direct vision esophagoscope. Certain of the esophagoscopists are equipped to take direct readings of the portal pressure, but this is not essential in as much as a description of their size and appearance will give about the same information. Injection of these vessels with a sclerosing solution has been done on numerous occasions with considerable immediate success. However, this really does not cure anything nor does it change the pressure problem. Recurrences are inevitable, and all that has been accomplished is to give the patient and the doctor a false sense of security. X-ray examination of the esophagus is not too reliable. All too frequently varices of large size will not give any indication with this type of examination. Probably the actual pressure in the varices at the time of examination is the determining factor. This pressure is known to vary considerably from time to time, sometimes for no very apparent reason. If they are visualized radiographically, all well and good, but if they are not you can't stop looking. Splenoportogram may help in differentiating an intrahepatic from an extrahepatic block. This is not essential, however. Clinical judgment oftentimes is just as correct. However, if your radiologists can do this test, take adventage of it.

When the diagnosis has been made, treatment must be considered in two parts: Medical and surgical. The former is directed towards the arrest or alleviation of the process in the liver. The latter has to do with shunting the blood from the portal vein into the inferior vena cava and in this way lessening the amount that passes through the varices. About one quarter of people with well developed varices eventually die of hemorrhage. A much larger proportion bleed but do not necessarily die. On the basis of the fact that it is a life prolonging measure the patient should be persuaded if possible to undergo shunt surgery before he bleeds. The better his liver function, the better the operative results. In other words the earlier this is done the better. Time does not permit a discussion of a relative merits of the various shunt operations. There is a great deal to be said for all of them. To the author the side to

FIGURE 4

THE CORRELATION OF LIVER FUNCTION TESTS WITH POST OPERATIVE DEATHS IN 75 OPERATIONS FOR BLEEDING ESOPHAGEAL VARICES. Reported from the Massachusetts General Hospital 1945-51.

GOOD RISKS FOR SHUNT SURGERY

1. Less than 2+ Cephalin Flocculation Test
2. BSP below 10% after ½ hour
3. Prothrombin time within 4 seconds of normal
4. Plasma Albumin greater than 3.0 gms/100cc
5. The absence of Ascites
6. Serum Bilirubin below 1.0 mgm/100cc

BAD RISKS FOR SHUNT SURGERY

1. The patient is jaundiced
2. Plasma Albumin below 3.0 gms/100cc
3. Ascites that fails to respond to medical management
4. 3+ or 4+ Cephalin Flocculation Test
5. Increased Prothrombin Time above 4 seconds that does not respond to Vitamin K therapy

FIGURE 5

DEFINITIVE TREATMENT OF
ESOPHAGOGASTRIC VARICES

REDUCE ARTERIAL INFLOW TO PORTAL BED
- LIGATION OF SPLENIC ARTERY
- SPLENECTOMY
- LIGATION HEPATIC, SPLENIC AND LEFT GASTRIC ARTERIES

INCREASE THE COLLATERAL CIRCULATION
- OMENTOPEXY OR TALMA MORISON OPERATION
- GARLOCK: UPPER ESOPHAGUS, MEDIOSTIUM AND THORACIC WALL

REDUCE THE FLOW OF PORTAL BLOOD THROUGH THE VARICES
- LIGATION OF THE CORONARY VEIN
- LIGATION OF PERIESOPHAGEAL VEINS
- TRANSECTION OF CARDIA OF STOMACH
- ESOPHAGOGASTRECTOMY
- TOTAL GASTRECTOMY

DIRECT ATTACK UPON THE VARICES
- SCLEROSING THE VARICES THROUGH THE ESOPHAGOSCOPE
- TRANSESOPHAGEAL LIGATION OF THE VARICES

SHUNTING OPERATIONS
- ECK FISTULA
- GUNN: RIGHT OVARIAN AND PORTAL VEIN ANASTIMOSIS
- OVARIAN AND SUPERIOR MESENTERIC VEIN ANASTIMOSIS
- SUPERIOR MESENTERIC TO INFERIOR VENA CAVA
- END TO SIDE SPLENORENAL SHUNT WITH SPLENECTOMY
- END TO SIDE PORTOCAVAL SHUNT
- SIDE TO SIDE PORTOCAVAL SHUNT

side portocaval shunt seems the most logical. However, the experience of the surgeon should be the deciding factor. Ligation of the hepatic artery is dangerous and of little permanent value, even though the technique is comparatively simple. Transesophageal ligation and direct injection of the varices are only temporary measures. Recurrances are inevitable because nothing has been done to change the hemodynamics.

The situation becomes somewhat different, however, when the patient is bleeding actively and profusely. Even though varices have been demonstrated previously, 25% of cirrhotics, who bleed, do so from peptic ulcers or gastritis. The findings of a hard liver and an enlarged spleen does not necessarily prove the point. X-ray at the time of bleeding using the so-called Hampden technique may be of considerable assistance in making this differential. However, this and most of the other diagnostic techniques may not be immediately available unless the patient happens to be in a well equipped hospital. This is an emergency situation. Plenty of blood should be available. Until the patient can be moved to the nearest hospital the Blakemore-Sengstaken Tube may be lifesaving and at the same time provide a means of differential diagnosis. This tube should be used whenever there is the slightest question regarding the sources of the bleeding. One or more, with all the accessary equipment should be kept readily available in every community, and someone should make himself familiar with its use. This is by no means difficult although when first seen the tube is most awesome. It has three lumen, a distal gastric balloon and a proximal esophageal balloon. Anaesthetize the largest nasal opening with 2% pontocaine and pass the tube through here until you are sure the tip is in the stomach. Inflate the gastric balloon with 150 cc of air using a 50 cc syringe, and apply traction on the tube so that the inflated balloon is pulled firmly up against the cardia of the stomach. This may be all that is needed to stop the bleeding, if it happens to originate from that area. In fact there is a varient of this tube with only the single gastric balloon, and its use is based on the supposition that all the blood in the varices comes from the gastric veins, and therefor compression of them stops the blood from flowing into the esophageal veins. There is a square, sponge rubber device on the Blakemore tube that can be pushed against the nose and fixed in place with adhesive, thereby allowing traction to be continiously exerted. This technique at times produces a necrosis of the nares, and therefore should not be used except as a temporary expedient. The best and cheapest device is a child's or toy baseball catcher's mask. The tube can be taped to the protective bar and constant traction maintained. The esophageal balloon is then inflated to a pressure of from 35 to 45 mm/hg using a manometer and bulb of the type to be found in the usual aneroid blood pressure apparatus. This takes about 50 to 75 cc of air. It is important thereafter to see that this pressure is constantly maintained. The stomach should then be lavaged with ice water until all the old blood has been removed. This is tedious and difficult, and should not be left up to a nurse or other assistant unless he or she has done it before. When the return comes clear and no new bleeding is evident, then it is reasonable to assume that the hemorrhage has stopped and its cource was from a varix. If bleeding con-

tinues and you are sure the tube is in place, then the site of the hemorrhage is in the stomach or duodenum. Your problem then is that of a bleeding ulcer, keeping in mind that if the patient has severe liver disease he can go into liver failure, no matter where he is bleeding from.

Assuming that the bleeding has stopped and remains stopped, you can be reasonably certain that the varices are the source. Do not leave the tube in place for more than 48 hours. When you reached this point deflate the balloon, first letting up on the traction and leaving the tube in place to be sure that bleeding does not start up. If it does, you have to be ready for immediate definitive action. There has been a 48 hour period during which the patient could have been moved, if it were not practical to attempt a transesophageal ligation of the varices where he was. This is definitely the precedure of choice if bleeding starts again, remembering that it is only a temporary life-saving expedient, and that a suitable shunt will have to be done later. In certain of the great centers where such emergencies are commonplace it is advocated that an emergency shunt operation be attempted immediately. At the present time I think that this is too risky for everyday use.

In the presence of large quantities of blood in the intestinal tract certain microorganisms act on its protein to form amonia. This amonia is absorbed into the portal circulation and taken to the liver where it normally is further broken down and detoxified. In the case of the cirrhotic liver this function is to a large extent non-existant, and amonia accumulates in the systemic circulation. Whether this excess of amonia actually is the direct cause of hepatic coma is questionable. Reducing its level by means of argenine does not always relieve the coma. However, whether the individual with severe liver impairment is bleeding from varices or from an ulcer, the result, as far as amonia intoxication is the same. On the other hand if the varices from which he is bleeding are due to extrahepatic blockage, then the liver can be assumed to be intact and blood amonia is no problem. It is best to administer a saline laxative through the gastric lumen of the tube as soon as possible in order to get the blood out of the intestinal tract.

FIGURE 6

93 CASES OF ESOPHAGOGASTRIC VARICES ADMITTED TO THE MASS. GENERAL HOSP. OVER A 5 YEAR PERIOD.

INTRAHEPATIC BLOCK
70% (65) 49% (32) Deaths 51% (33) Shunts

EXTRAHEPATIC BLOCK
30% (28) No Deaths 82% (23) Shunts

CAUSES OF DEATH IN THE INTRAHEPATIC GROUP (32)

EXSANGUINATION	72% (23)
HEMORRHAGE WITH SECONDARY LIVER FAILURE	13% (4)
LIVER FAILURE WITH SLIGHT HEMORRHAGE	15% (5)

NOTE: Bleeding from varices in the older age group with intraheptic block, cirrhosis and liver failure is a much more serious problem than in the comparatively younger age group with extrahepatic block and an essentially normal liver.

Life expectancy after the diagnosis of cirrhosis has been made, with or without bleeding, is 50% dead at the end of one year and 78% dead after 4 years.

17% of cirrhotics died as a direct result of the first hemorrhage, 50% died who had bled a 4th time. The prognosis with each succeding hemorrhage gets much worse.

If the bleeding has ceased and remains so after the tube has been withdrawn and the patient is in good shape, then shunt surgery should be done as soon as possible. Blood replacement should have been adequate and his electrolytes should have been brought to normal levels. The longer you wait to do this surgery the greater is the possibility of further bleeding. With each successive hemorrhage the immediate mortality rate

FIGURE 7

MORTALITY AFTER HEMORRHAGE FROM ESOPHAGOGASTRIC VARICES
(Mass. General Hospital 1934-45 incl.)

		Intrahepatic Cirrhosis 71 pts. died		Extrahepatic Banti's 19 pts. died	
1	Month	16	23%	1	5%
6	Months	29	41%	1	5%
12	Months	38	54%	1	5%
2	Years	46	65%	1	5%
4	Years	55	77%	5	26%
7	Years	58	82%	8	42%

increases sharply. In the meantime the patient should be under strict surveillance. If the individual with the alcoholic type of cirrhosis can be kept away from any more liquor and can be persuaded to eat a nutritious type of diet, this alone will produce a remarkable change for the better as far as his liver function is concerned. In a sense this type of patient presents a great challenge for he can be literally brought back from the brink of death by vigorous medical measures, and will live for many years if he will only

stop his alcohol. Even though all this is done he still needs his shunt operation, for the portal hypertension remains in spite of general improvement. Between hemorrhage and shunt is a good time to institute vigorous psychotheraputic measures. The patient is much more amenable to reason than he will be later on.

During the course of emergency treatment the patient may develop delerium tremens. This situation may be a little difficult to differentiate from impending hepatic coma. However, the maniacal state and the type of tremor will help to make this differential. This sort of thing can be most disconcerting, especially when you have the Blakemore tube nicely in place, a catheter in the bladder, and blood and fluids going into one arm. It is a very good idea to have restraints routinely readily available. Avoid barbituate sedatives for they are detoxified in the liver. If by any chance you do use them remember that they remain in the blood stream a long time and may account for what looks like early coma.

We have partially answered the third question that was postulated; that is what to do with the patient after he has recovered from a bleeding episode. A lot will depend upon whether you have pulled him through the episode or he has come to you for the first time with the history of such a complication. A decided effort should be made to determine whether the block is intrahepatic or extrahepatic. The presence of varices should be proven and peptic ulcer should be ruled out. Generally speaking the extrahepatic block is associated with a relatively normal liver, for the block is in the portal vein and not in the liver parenchyma. The results of operation will be much better because liver failure will not be a problem.

Cryptogenic cirrhosis, that is cirrhosis not associated with an alcoholic back ground, presents a little different picture. Splenomegally is encountered much more frequently. Generally speaking the patients come from a younger age group. Infectious hepatitis appears frequently in the past history. The progress of the disease is slow, over a period of years and jaundice when present is not very deep. Bleeding episodes are more frequent in this group. There doesn't seem to be a great deal of improvement with the usual forms of medical treatment. Shunt surgery in this group presents a far better mor-

FIGURE 8

COMPARISON OF THE TWO MOST COMMON TYPES OF CIRRHOSIS

ALCOHOLIC: associated with alcohol and malnutrition
CRYPTOGENIC: no such obvious association

	ALCOHOLIC	CRYPTOGENIC
Duodenal Ulcer as a complication	average	average
Gastric Ulcer as a complication	above av.	average
Splenomegaly and Hypersplenism	infrequent	frequent
Portal Hypertension	++	++++
Varices that are obvious	+++	++++
Downhill progress of liver disease	irregular	steady
Deep jaundice	frequent	rare
Ascites, recovery from	frequent	rare
Ascites, degree of	++++	++
Response to treatment	good	poor
Relative size of the liver	++++	++
Bleeding from varices	frequent	rare
Response of ascites to correction of serum protein defects	good	poor
Spiders and liver palms	no difference	
Duputren's contractures	present	absent
Parotid enlargement	present	absent
Gynecomastia	present	absent
Nitrogen retention, marked	frequent	rare
Malnutrition	present	absent
Nodularity of liver, size of	small	large
Primary liver cell cancer	4-8%	16.5%
Presence of fat in the liver	++++	+

tality rate and adds many more years to the patients life. Hepatic coma complicates bleeding far less.

In a paper such as this it is impossible to cover everything in a detailed fashion. There are certain points that one would like to bring out. Probably the most important thing to keep in mind is that shunt surgery has no curative effect upon the disease or process that is causing the block. In many instances it has little or no effect upon the pressures within the portal vein. All too frequently the pressure is lowered immediately post-operatively, only to climb back to its original heights at a later date. This may mean that the shunt opening has closed up, but not necessarily so. It the shunt is successful it diverts a large volume of blood and keeps it from passing through the varices and in this way to a large extent does away with the danger of hemorrhage. In other words it has materially reduced the hypervolemia and has taken a great load from the veins making up the carices. This materially lessens the probability of future hemorrhage and in most instances can be life saving. Actually you are treating the hypervolemia and not so much the hypertension.

The Blakemore-Sengstaken tube should be considered a routine form of treatment, and not reserved for a last minute desperate attempt to accomplish the impossible. It can be a most important aid in locating the source of the bleeding and can be used for this purpose alone. The tubes and accessories are expensive and can be used repeatly if care is taken in their handling. Homemade substitutes have been used but they are not nearly as satisfactory as the real thing. Many times a careful examination of the tube after it has been removed will indicate exactly where the bleeding point is. The open vein stains the rubber balloon at the point of contact. This localization can be of infinite help to the surgeon if he has to do a transesophageal ligation. If the stain is on the gastric balloon he may use a transabdomenal approach, instead of through the chest.

Open tube esophagoscopy should be done routinely prior to an elective shunt. The extent of the varices can accurately be estimated which will help the surgeon materially, for at operation all too frequently they are empty of blood and difficult to see. It is not too difficult to make direct pressure readings, and a rough measurement of the diameter of the veins will be of help. During active bleeding this examination is not of great practical use. In several institutions it is routine to lavage with ice water which temporily stops the bleeding, and then see if the bleeding point can be visualized. This may be all right from an investigative point of view, but I don't think it has much practical value. It would be much more valuable to get the tube down right away and not waste time.

I think it would be valuable to emphasize again that cirrhosis is not always the result of a lifetime or overindulgence in alcohol. Granted, if you work in a large city hospital you see a greater proportion of derilects who have this disease. Can we be certain even in these people that it is the alcohol that is the real cause and that malnutrition is only secondary. In all probability it is the other way around, for these people respond in a most satisfactory fashion to proper diet and added vitamins. There are all too many instances of individuals who have been known to consume great quantities of alcohol regularly and yet have lived to a ripe old age. Viral hepatitis is being implicated more and more as the forrunner of cirrhosis. In fact there are some observers who believe that hepatitis is the sole agent which renders the liver cells more susceptable to further insults by various liver toxins.

Whatever the answer is, people with bleeding esophagogastric varices are worth saving, and many can be saved if we are prepared to diagnose the situation and have the facilities at hand to treat them.

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(Continued on Page 476)

PROGRAM

South Dakota Society of Internal Medicine

State University of South Dakota
Vermillion, South Dakota

FRIDAY, SEPTEMBER 30, 1960

1:30 p.m.	Registration	Medicine and Science Bldg.
2:00 p.m.	"Cardiac Contusion After Non-penetrating Chest Injury"	Robert F. Thompson, M.D. (Associate) Yankton, S. Dak.
2:30 p.m.	"Management of Refractory Edema"	Paul Winchell, M.D., FACP Minneapolis, Minnesota
3:00 p.m.	"Primary Prevention of Rheumatic Fever: A Five Year Study in Casper, Wyoming.	Brendan P. Phibbs, M.D., FACP Casper, Wyoming
3:30 p.m.	Intermission	
3:45 p.m.	"The Continuing Tragedy of Tetanus"	E. Wesley Spink, M.D., FACP Minneapolis, Minnesota
4:00 p.m.	"Non-tropical Sprue"	Eric E. Wollsager, M.D. Mayo Clinic, Rochester, Minn. (by invitation)
4:30 p.m.	Missed Endocarditis	E. Stephen Kahler, M.D. Sioux Falls, South Dakota (by invitation)
5:30 p.m.	Social Hour	(Courtesy of Kreisers Inc.)
6:30 p.m.	Banquet Address: "The Educational Objectives of the American College of Physicians"	Wesley Spink, M.D., FACP Regent, American College of Physicians

SATURDAY, OCTOBER 1, 1960

9:30 a.m.	"Severe Hypoglycemia Due to Mesothelioma Arising in the Pleural Cavity"	Gordon Paulson, M.D., Asso. Rapid City, South Dakota
10:00 a.m.	"Diagnosis and Treatment of Common Arrhythmias"	Paul Winchell, M.D., FACP Minneapolis, Minnesota
10:30 a.m.	"Practical Isotope Techniques in Clinical Medicine"	Richard Ogborn, M.D., Asso. Omaha, Nebraska
11:15 a.m.	Business Meeting, South Dakota Society of Internal Medicine	

PRESIDENT'S PAGE



The July issue of "The P R Doctor" from the American Medical Association stresses some matters I think should be brought to your attention. Since the physician is first of all a citizen, with the same responsibilities as any other citizen, it is important that we become more influential in behalf of sound American government.

The following "basics" of citizenship can certainly be recommended:

1 — The doctor's primary duty as a citizen is to be the guide and source of authority in all health matters relating to his community.

2 — The doctor should openly identify with the party of his choice, and vote regularly at all elections.

3 — The doctor should make an investment in democracy by contributing liberally financially to the party of his choice.

4 — The doctor should encourage patients and others with whom he comes in contact to register and vote in all elections.

5 — The doctor should keep informed on candidates and issues and let others know where he stands politically.

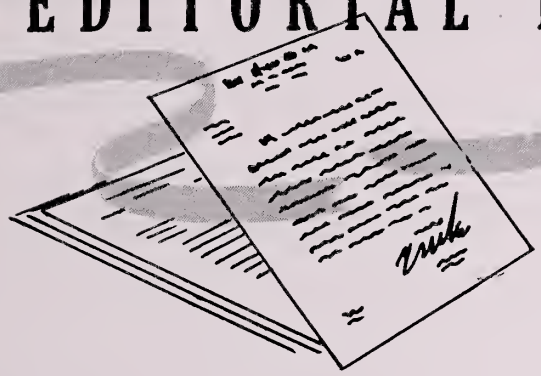
6 — The doctor can help candidates of his choice by such means as displaying campaign literature in his waiting room.

7 — The doctor should devote as much time as his professional duties permit to working for good government and for the political party of his choice.

Doctors must realize the full import of President Eisenhower's words: "Politics ought to be the part-time profession of every citizen." When people refuse to exercise their responsibilities as citizens, government or other political groups will assume those responsibilities. In the case of the doctor, his professional life may very well depend upon how seriously he accepts the challenge citizenship.

C. Rodney Stoltz, M.D.

EDITORIAL PAGE



THE GRIEVANCE COMMITTEE

Recently the Grievance Committee received a letter in reply to a decision on a complaint of overcharge that could be construed only as an insult to the integrity of our Committee. The reply he then received from the Committee was of a nature that should have been enlightening to him, and contained information that will be, probably, of value to our membership for future use in answering charges of "white wash" when the Committee finds for a Doctor in a complaint.

This complaint inferred that amounts allowed by insurance coverage should set the fee charged by the Doctor, and doubted that the Grievance Committee ever decided against a Doctor on the amount charged for services. These inferences are in grave error in two matters; the setting of medical fees by insurance companies, and that the Grievance Committee condones overcharging by physicians.

Most insurance companies, in their fee schedules, allowing for medical care, essentially follow a point system, except for a few operations which are eye-catchers and an appeal to prospective purchasers of insurance policies; such items as appendectomy, gallbladder, stomach resection and brain tumors. Generous fees are allowed for these more familiar and more feared proceedures, at the expense of many other procedures, not as well known but no less technical. Consequently the Doctor is suspected of overcharge when he submits a reasonable charge for work.

Unfortunately there have been a few instances in which members of the profession have increased their charges, when they know that the expenses have been covered in whole or in part, by insurance. Up to this time, and to my certain knowledge, no excess fee has been condoned or tolerated by the Grievance Committee on a basis of insurance coverage. Occassionally a fee in excess of custom is allowed because of unusual difficulty in a specific case, but it is much more likely that a "usual" fee is reduced because of peculiar financial circumstances of the patient. Unfortunately the general public seldom learns of THESE cases but hears only of those in which an insurance allowance does NOT cover the bill.

Certainly we do NOT submit to any insurance company setting fees for our work. Insurance Companies' allowances are not INTENDED to cover all expenses of an illness, except in those few instances where the allowance is quotable as a point for making policy sales. Your Grievance Committee always considers the customary fees charged over the State for service, and allows or dis-

counts the questioned fee on a basis of circumstances affecting the case.

It is important that all Doctors involved in a grievance, and all patients presenting a complaint, remember that the Grievance Committee is composed of Doctors who must have been president of the Association and have no favors to seek from the State, and that a Grievance arising in the immediate vicinity or territory of a member of the committee, automatically removes, for that case, the Doctor practicing in that area, who might be on the committee.

Your Grievance Committee was conceived as an utterly impartial group of Doctors, of unimpeachable integrity, experienced in honesty and judgment in all matters that may come before it, be they matters of overcharge, mistreatment of a patient or other matters, of justice and equity between Doctor and Patient, Doctor and Doctor, or Doctor and Insurance Carrier.

The Committee will protect you in your rights, as quickly as it will censure you when you are wrong. L. J. Pankow, M.D.

I BELIEVE . . . .

With elections drawing near and opposing philosophies of government vying for the electorates' vote, it is refreshing to read again the American Farm Bureau Federations "I Believe" as based on their actions taken in 1953.

The thoughts expressed by the Farm Bureau are most adaptable to our own beliefs as they pertain to the American way of life.

I Believe

. . . in the American competitive enterprise system . . . that man's search for progress should be encouraged by maintenance of opportunity, not hindered by illusions of security . . . that a person should be rewarded in accordance with his productive contribution to society . . . that every man is entitled to own property, earn money honestly, save, invest and spend as he chooses . . . that property rights cannot be taken away without infringing on rights guaranteed by the constitution . . . that the constitution is the basic law of the land, and its interpretation be in accordance with the intent of its authors . . . the government should operate impartially in the interest of all . . . that government's regulatory functions should be based on law . . . that government should provide only minimum controls and aids . . . that government should stimulate, not discourage, individual initiative . . . that propagandizing by government is dangerous to the maintance of self-government . . . that monopoly, whether by government, industry, labor or agriculture, is dangerous . . . that voluntary cooperation is a part of the American system . . . that all candidates for public office should state their beliefs with respect to communism, socialism and capitalism.

THE INTERNIST LOOKS AT THE PROBLEM OF ESOPHAGOGASTRIC VARICES—

(Continued from Page 472)

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EPILEPSY

A recent gift book sent to this Medical Library by Funk and Wagnalls publishing Company, **Medicine Today** by Marquerite Clark, Medicine editor of Newsweek magazine, 1960, informs us that "Epilepsy, the mysterious ailment formerly known as the 'falling sickness' is still as common in the United States as diabetes or active tuberculosis, and occurs four times as often as poliomyelitis. At least one in every 200 Americans has this condition in mild or severe form. Approximately 52,000 new cases are diagnosed each year . . . Some states have laws prohibiting the marriage of epileptics, although it has been proved that the influence of heredity is about the same as diabetes, half as much as in obesity and one-eighth as much as in migraine. Seventeen states have eugenic laws making sterilization permissable or mandatory for epileptics."

A special report on Epilepsy published in Patterns of Disease by Parke Davis & Co. Dec. 1958 gives the following statistics:

At least 1 in 200 have the condition in mild or severe form; 640,000 to 1.7 million in the U. S. 28,400 reside in public institutions for the mentally ill; 12,012 in public hospitals for mentally ill; 16,449 in hospitals for mental defectives and epileptics. One child in 15 has at least one epileptic seizure. All states except South Dakota either deny driver's licenses to epileptics or outline procedures for limiting licenses to them. There are only 79 special clinics scattered through 33 states mainly in large urban areas, which deal with epilepsy.

With anticonvulsants and other drug therapy, 80 to 90 per cent of epileptic patients can enjoy complete or partial freedom from seizures and can expect to lead normal lives. Control of seizures can be achieved in the majority of patients through careful use of anticonvulsant drugs, singly, or in combination. Increased clinical experience indicates an important place for anticonvulsants in petit mal control. The probability of spontaneous or therapeutically induced remission is good if the patient has had only a few seizures which began after childhood or if no gross brain injury is present. Among the types of seizures are petit mal, grand mal. psychomotor and focal motor and sensory. Primary seizures are of unkown etiology while secondary grand mal may be traced to organic lesions and other causes.

A study entitled "Acquired epilepsy: a study of 535 cases" is found in **Neurology** v. 4, 1954, p. 19-28, written by Geoffrey C. Robinson and William G. Lennox. According to this article etiologically, persons having

epileptic seizures are generally divided into 2 groups. The seizures of one group are based on a transmitted "constitution" or tendency to seizures, the other to some pathologic change in the brain acquired after conception. The study is one in which the patients history or examination points to a structural change in the brain gross or microscopic, that antidates the first seizure and hence might account wholly or in part for the epilepsy. 32.4 per cent evidenced organic lesions acquired prior to the patients first seizure; 99 per cent had first lesions before the age of 20 and 24 per cent had a positive family history of epilepsy. The causes of pathologic changes were assigned as follows: prenatal 13.3 per cent, natal 30.1 per cent; postnatal trauma 20.7 per cent, infectious 17.2 per cent other conditions 6.4 per cent unassigned 12.3 per cent.

A new journal, **International Journal of Neurology** devotes its first issue, Dec. 1959 to epilepsy. One article of particular interest by Melvin D. Yahr and H. Houston Merrit of the Dept. of Neurology of the Neurological Institute of New York, is "The Drug Therapy of Convulsive Seizures" It states that no ideal anti-convulsant mediciation has been discovered which would effect all seizure types, have an established dosage and which would not produce side effects. A clinician must therefore, have a comprehensive understanding of the various medications available, as well as the techniques by which they can be successfully utilized. "The objective of all anticonvulsant therapy is to establish and maintain a reservoir of drug sufficient to control the seizures while producing a minimum of side reactions . . . A combination of drugs will often be necessary even with patients with a single seizure type." The antiepileptic drugs most commonly used are derivatives of the barbituates, hydantoins, oxazolodines, bromides and, to a lesser extent, the phenylacetylureas, succinimides, and carbonic anhydrase inhibitors. A valuable part of this article is the inclusion of tables giving therapy of various drugs in major seizure types, dosage ranges and toxicity of drugs in the petit mal and petit mal triad and in the major seizure types. Dilantin phenabarbital or mebaral was most effective for seizures controlled or improved. The best response is obtained with grand mal, focal and petit mal seizures; the psychomotor, monor, akinetic and myoclonic types respond poorly.

Another informative article in this journal is by Robt. B. Aird Prof. and Chairman of the Dept. of Neurology of the University of Calif. School of Medicine, "Modern Concepts of the Value of EEG in Epilepsy" In summary "In addition to the usual study of the cortical potentials and rhythms of epilepsy of EEG a method is described which permits an evaluation of the bilateral, hemispheric synchrony of brain waves . . . The potentialities of EEG as a clinical physiological tool, rather than a diagnostic aid, were also presented. The value of EEG when used to increase our understanding of those physiological mechanisms which vary considerably in each epileptic patient, was stressed and the importance of obtaining such knowledge in planning a comprehensive regimen of management for each patient indicated."

This journal also contains an article by John F. Fulton of the Dept. of the History of Medicine of Yale University on the History of focal Epilepsy and also Psychiatry Aspects of Epilepsy by C. L. Cazzulo, Head of the Dept. of Psychiatry at Milan University Medical School.

Mrs. Esther Howard
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RECENT TRENDS IN SURGERY FOR HEARING LOSS DUE TO OTOSCLEROSIS—

(Continued from Page 461)

surgical procedures for the restoration of hearing in otosclerosis there has come new hope for many individuals who suffer from the effects of deafness. The advances of the past five years have far surpassed the results of any form of treatment which was available prior to that time. As Otologists become increasingly skilled in this sort of work and as newer and more efficient instruments and surgical techniques become available it is more than likely that further improvement in this type of work will be seen.

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ROSEBUD GROUP CONSIDERS HYPNOSIS

The Rosebud Interprofessional Society met for the second time July 14th at the Elk's Lodge in Winner. This organization was recently formed to promote closer liaison between the professional men of the Rosebud Area, namely Dentists, Physicians and Pharmacists, and has been well-received by eligible members.

The Society was pleased to have as guest speaker, Dr. Don Nemer of Gregory who gave a very interesting talk on **HYPNOSIS** as used in Dentistry and he covered the history, definition, requirements for adequate subjects, stages of induction and therapeutic utility of this interesting phenomenon.

Dr. Scott, new dentist at Rosebud Indian Hospital, was introduced to the group as was Dr. David Robert Studenberg, physician and surgeon, who recently began practice at Gregory, South Dakota.

NEWS NOTES

Dr. William E. Gorder, for 12 years a practitioner in Aberdeen, has moved to Bagdad, Arizona where he will enter private practice plus part time industrial practice. Dr. Gorder is president of the Aberdeen District Medical Society.

* * *

Dr. A. A. Lampert, Rapid City, appeared on the program of the regional conference on political action in Salt Lake City, on July 29-30.

* * *

Dr. S. W. Fox, Pierre, was married to Marion Rheindorf at Santa Barbara, California.

John C. Foster appeared before the State Republican platform committee to discuss the medical association's position on health care for the aged.

* * *

Dr. Albertos Repsys, passed away at the Belle Fourche Hospital on July 29th. He had practiced at Lead, Buffalo and Woonsocket.

* * *

Executive-secretary **Foster** represented SDSMA at dinner in Bismarck honoring **Dr. Leonard Larson,** new A.M.A. president-elect.

* * *

Dr. Donald McNaughton, a native of North Dakota, is the Medical Officer in charge of the Area Office, Division of Indian Health, Public Service. He is located in the City of Aberdeen.



HAROLD S. BAILEY, PH.D.
EDITOR
Division of Pharmacy
South Dakota State College
Brookings, South Dakota



SOME PROBLEMS OF PHARMACY*

by

Willis Hodson**

Aberdeen, South Dakota

I have chosen as a title for my talk to you this morning, "Some Problems of Pharmacy." I have picked this title for a variety of reasons.

First, if we were to discuss all the problems of Pharmacy, I doubt if we could finish this week.

Secondly, the problems of Pharmacy, as in many fields of endeavor, are so complex, I doubt if any one person would be qualified to talk on all of them, certainly I know I could not.

Also, some of our problems are like the seasons, in that they come and go more or less in cycles.

So what I want to say this morning may be classified as a discussion of some of the problems of Pharmacy as related to your Association; store operation in the face of many changes; and the future outlook for Pharmacy as a whole.

Before we get into a discussion of these problems, however, let me point out that we must not feel that we are the only ones with problems. Today billions of dollars and millions of man-hours are being expended on the problems of the world.

Problems are a characteristic of our struggle for existence, and have been ever present since the birth of mankind.

*The Presidents address to the 74th Annual Convention of the South Dakota State Pharmaceutical Association, Aberdeen, June 20, 1960.

**Manager Walgreen Drug, Aberdeen, South Dakota.

One of the things that has bothered me the most during the past five years I have served as an officer of your association is the knowledge of the complexities of the problems facing Pharmacy; the awareness of your desires to do something about them; yet, the inability of Pharmacy as a group to institute satisfactory answers to many of the problems.

You have had conscientious and hard working men on your committees and boards, and many of them have put in long hours without pay. I do not believe any other group could have done better.

Yet our problems seem to multiply —

Competitors sell more drug items than ever before.

Cost of store operation — wages, repairs, freight — seem to continue to rise.

Restrictive sales have taken a set-back in the courts.

Future gross profits are now endangered by the loss of Fair Trade in neighboring states.

"Splendid Isolationism" Outmoded

Lets go over some of the things faced in seeking solutions to our troubles.

Lets start with our own association.

In South Dakota all Pharmacists are members of their state association. We are a group of about 900 members with about 250 stores.

Yet six years ago in this very room, everyone thought it was wonderful when about 50 appeared for a meeting, and last year a record was set when 100 attended.

At a recent Pharmaceutical Institute there was an attendance of about 35 — an amount considered normal.

Stop and think a moment — just what kind of an organization do we really have. As I see it, we have a group composed of all types of stores, with all types of problems, staffed by a group of well trained college graduates, but the dis-interest of many has created a condition of confusion, criticism and misunderstanding.

I feel this will continue as long as we consider 10% of our membership as good attendance at a meeting.

On a recent trip, a man in one of the stores I called on asked me this question — Do you suppose there is a possibility of selling this store, or had I best just close out?

This same man also stated he had been a registered pharmacist for over 35 years, yet during that time he had never attended a convention of the state association.

True — maybe attending a convention would not have turned this small town store into a profitable operation, but the importance of problems and new developments has completely destroyed the so-called "Splendid Isolationism" which, in the past, dominated the pharmaceutical scene.

It is essential that you belong to state and national organizations, participate in their programs and aid them in the solution of your problems.

I have always felt we have not had enough contacts between association heads and members. Once a year meetings are not enough to keep everyone current on new developments in an area as large as South Dakota, especially when our only publication goes to less than 2/3 of the stores.

As I mentioned in Mitchell last year, I hoped to visit many of you in your stores. I thought this personal contact might better co-ordinate committee activities with the thoughts and feelings of the members.

My travels during the past year have taken me to 90 stores in 56 cities in all parts of the state, to two meetings with the medical profession, three executive meetings, a Pharmaceutical Institute and a National Convention, for a total of 4,200 miles, 2,500 within the state of South Dakota. I also visited a few stores in Minnesota.

I gathered a lot of individual ideas and opinions, but these travels also served to further convince me of the complexities of our problems, and therefore the harder to find a universal answer that will benefit all concerned.

Probably the hardest fact to face in seeking a solution to our problems, and a fact I feel many of us tend to forget, is that we are a part of a nation which guarantees freedom and equal rights to all.

This right to freedom and equality I feel has been a part of court decisions recently in many states regarding restricted drug sales and Fair Trade.

It has also made it impossible for us to go to our own legislature and introduce and get leigslation favoring the drug industry over other types of retail business.

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Each VARIDASE Buccal Tablet contains: 10,000 Units Streptokinase and 2,500 Units Streptodornase.
Supplied: boxes of 24 and 100 tablets.

1. Innerfield, I.: Clinical report cited with permission
2. Clinical report cited with permission

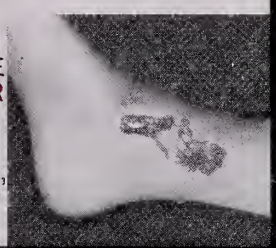
Lederle LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY
Pearl River, New York





FORCE INJURY
severe bruises ... swelling ... cleared by fifth day[2]





VARICOSE ULCER
15 years duration ... resolved with VARIDASE[1]





INFLAMMATORY DERMATOSIS
rapidly spreading rhus dermatitis healed within a week[1]





INFECTED LACERATION
marked reversal in 3 days ... returned to school ... closure advanced[1]





THROMBOPHLEBITIS
back on his feet in a week after recurrent episode[1]





REFRACTORY CELLULITIS
normal routine resumed after 4 days of VARIDASE[1]

So — what can we do —

1. We can do a better job of supporting organizations that are working in our behalf.
2. We can enlarge our public educational programs to maintain and promote the status of the drug store, where the customer can shop and get courteous, professional service along with reasonable prices.
3. We can give better support to regulations we already have that confine the sale of potent medicines and poisons to registered pharmacists.
4. We can intensify our efforts for a more realistic solution to our problems. We can probably get as many new laws as we want as long as they do not unjustly favor us to the detriment of someone else.
5. We can maintain clean, convenient, well merchandised stores, staffed with competent help; and stocked with an assortment of merchandise the public wants at prices they are willing to pay.

You Cannot Get By With Yesterday's Methods

Many changes have taken place in retail operations during the past few years. Supermarkets, discount houses, and mail-order firms are taking a large share of retail pharmacy's volume.

Pharmacists today must be realistic, and if they are, then will be progressive in their thinking and will adopt new ideas for selling that their customers have shown they like.

Call it self service, self selection, or whatever you will, the public has shown its preference for this type of store. People will buy much more on their own than we can sell them from behind the counter.

Many surveys have shown this to be true and supermarkets and other outlets have proven it a fact in actual use.

It is my belief that if we conscientiously want our share we are going to have to take a realistic look at what the public wants — what our customers want —- and then give it to them.

This does not mean that pharmacists cannot hold on to their professional rights, or that they cannot have the type of operation they desire as individuals.

There is room for prescription shops, conventional stores, and self-service stores in the drug business, but whatever type you decide you will operate, remember you cannot get by with yesterday's methods and thinking.

Volume and profit cannot be legislated into the store for long — the public will not stand for it.

There is a basic economic law which says, in effect, that in the American competitive system, no professional, distributional, or marketing activity can exist for long unless it meets the needs and desires of the public.

Remember that convenience, service and price are the three factors which are the determining points on where the public spends its money.

We must take the time and do the necessary studying to find ways to fit modern merchandising methods into the professional picture.

The U. S. population of 175 million will rise to an estimated 225 million by 1975. This fact alone tells us that there will be available for those who want it, millions of dollars of additional drug store volume.

True, some of this volume may be necessity, be in new lines of merchandise not now handled, but if we couple this potential for volume with good store operation, top quality service to our customers, and careful analysis and control of costs, the future of pharmacy can be even better than the past years we thought so good.

All pharmacists are after the same thing and if they are to achieve that end, they must work together and help each other perfect their own particular facet of this complicated drug business which certainly performs a fundamental and necessary economic and professional service. I would like to commend all the people that have worked with me this past year. Your co-operation and help has been greatly appreciated and your attendance at all called meetings has been nearly 100%, even despite a blizzard.

Three meetings of the executive committee were held during the past year, one each in Mitchell, Sioux Falls, and Pierre.

Two major problems were considered, one concerning clinic rentals, about which we will hear more tomorrow; and the other is

the problem in Minnehaha County with the handling of county medication. In this case the majority of the medications seem to be dispensed by the nursing staff of the county physician. Medication and dispensing records seems to be nil. A study of actual procedures is being made with the hope that corrective measures might be instituted.

I believe I should publicize the fine show of interprofessional relations that is apparent in the south-western portion of the State. The men of the Winner-Rosebud area are to be commended for their part in setting up monthly meetings between doctors, dentists, and pharmacists.

More of this type of inter-professional co-operation would practically eliminate any problems between medicine and pharmacy.

Legislative Committee Recommended

I would like to recommend that a legislative committee of three or five men be appointed for the coming session. This group could study and recommend feasable legislation that might be called for, or methods of combat to be followed if adverse legislation is introduced.

They could also go over and recommend changes, new additions to or elimination of some of our present regulations that have little or no value to us in light of past or present legal interpretations. These unuseable laws have been the cause of much mis-understanding by members that did not know they were of little or no value to us as a group.

I would recommend that the veterinary committee be continued another year. While this year has so far been a dis-appointment because of inability of getting the veterinarians to meet with us, just recently there has been some indication that this might be overcome.

I might also recommend that a study be made of the feasability of regional meetings between officers and members of our association to facilitate better communication and understanding of our problems.

There has been a suggestion that we reorganize our association and create a seperate section to handle legislation affairs with an increase in C & L dues to cover additional costs.

This I would not recommend immediately until we have time to study and consider several factors, not the least of which would be operational costs.

First, we must consider that a separate section would require nearly $50 per store assessment just to meet administrative costs, certainly a prohibitive amount, and still we would have nothing for legal or legislative expenses.

Secondly, I feel there are other means available to us at less cost.

Actually operating an association is much like running a business. Sometimes we must make operational changes to effect economic gains.

Future association operations, I believe, should be built around this cost control factor. Actually, if we don't, we may be faced very soon with an increase in membership dues just to meet the rising cost of today's operation, without adding anything else in the way of counsel, inspection or secretarial services.

While I would be the last one to suggest that we curtail our search for a solution to our problems, I do think sometimes in the past we have let our emotions replace our good judgment on some things.

First, we have always insisted on a pharmacist as a secretary.

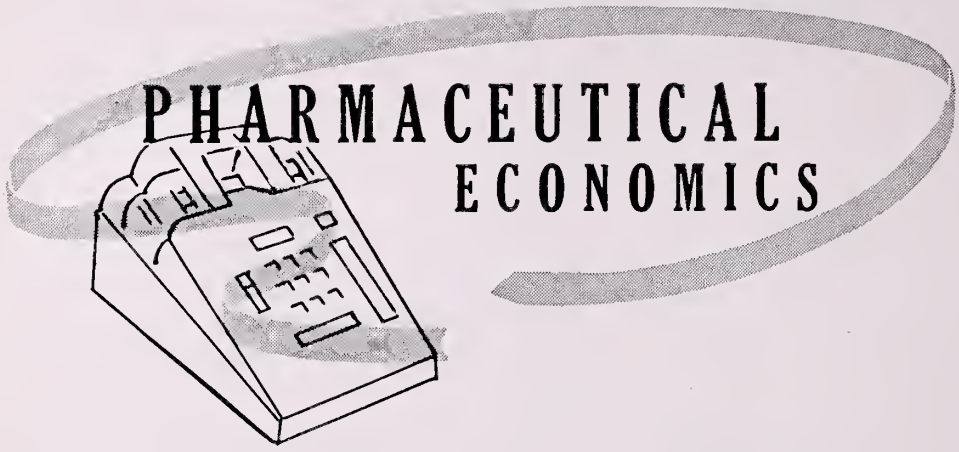
Someday in the future when we might seek a new secretary, we should consider the fact that pharmacists are not trained as executives, accountants or as legal aides, and we are jeopardizing ourselves both in time and money in the years of extra training required for a pharmacist to fill our needs.

Our most pressing want is for legal assistance, and we always should have good administration. One person with legal training could fulfill both of these needs and handle our legislative affairs as well, probably at present day costs.

Secondly, we hire inexpensive help in our store to do bookkeeping and secretarial chores, yet we burden our secretary with such tasks as matter of course and criticize when he does not solve our problems or come to see us.

Maybe we should give our secretary a staff aide, he might even then be able to act as part time inspector for the Board, thus giving them a chance to have a little extra money

(Continued on Page 497)



Public Attitudes Toward Prescription Costs and the Drug Industry*

PART III

PUBLIC ATTITUDES TOWARD THE DRUG MANUFACTURERS

A single over-all measure of public attitudes toward drug manufacturers was sought by the following question, asked of the entire sample: "In general, would you say your impression of the companies that manufacture these (new or "wonder") drugs is very favorable, fairly favorable, or not favorable?"

Table 1 shows the distribution of replies.

TABLE 1

	Percent of Total Sample
Very favorable	44%
Fairly favorable	36
Not favorable	2
No opinion	18
	100%

In a way, this finding may be regarded as somewhat surprising, considering the context of events in which the question was asked. A large part of the interviewing, for example, was conducted during the weeks when the Salk polio vaccine was headline news all over the country and press reports cast some doubt on the manufacturers' methods of testing. Obviously, too, the questioning was conducted at a time when there was much concern in the pharmaceutical industry over public complaints about the high cost of drugs.

It is evident, however, both from comments recorded by the interviewers and from more detailed analysis of the results, that these favorable attitudes are not firmly held and are not based on an informed conviction of the drug companies' virtues. Rather, they are favorable in the sense of "I've got nothing against them," "I guess they're doing a good job," The government licenses them so they must be all right."

Obviously, all groups of the population do not view the drug companies with equal favor, and a few of the more interesting comparisons are shown in Table 2. For better educated segments of the public, for example, are more likely to express a "very favorable" attitude. To some extent, the differences shown reflect the greater tendency of some groups to answer to "No opinion" or "Don't know," but even when this fact is taken into

* This is the third of a series on the attitudes of the general public toward prescription costs and the drug industry. Parts I and II will be found in the July and August issue.

account, the differences still hold.

TABLE 2

	Percent "Very Favorable" to Drug Companies
Attended college	52%
High school only	48
Grammar school only	34
Believe people's chances of good health are better today than 30 years ago	46
Believe chances are about the same	36
Believe chances are worse today	30
Believe "a person understands his own health better than most doctors do"	38
Disagree with above proposition	48
Believe there are "a great many" companies that manufacture drugs	54
Believe there are "only a few" such companies	49

Skepticism about modern medicine, as exemplified by the belief that the chances of good health are no better today than they were 30 years ago, and that "a person understands his own health better than most doctors do," is quite strongly related to attitudes toward the drug companies.

On the other hand, whether a person believes there are large numbers of such companies (presumably competing for his favor), or only a few (presumably monopolizing the field and keeping up prices) appears to have considerably less relation to his attitude. It appears from a number of volunteered comments that some of the people who believe there are only a few companies manufacturing these drugs hold the opinion that these few must in consequence be unusually competent.

Careful analysis of the replies to the overall attitude question reveals another pattern of findings which is surprising, for even among those groups who would seem to have the most logical grounds for criticizing the drug companies, very little hostility is expressed.

Table 3 summarizes the attitudes of several of these key groups toward the drug manufacturers.

TABLE 3

	Percent Who Are "Not Favorable Toward Drug Companies
Among those who:	
Believe drug costs are much too high	3%
Believe drug costs are somewhat high	2
Blame the drug companies for delays and difficulties in distribution of Salk vaccine	5
Say "wonder drugs" cost quite a bit more than they expected to pay	1
Used "wonder drugs" and found them ineffective	7
Report allergic reaction to "wonder drugs"	2

For ease of presentation, only the "Not favorable" figure has been shown, and it cannot be assumed that all the other people in the above groups have completely favorable attitudes toward the companies. Nevertheless, the remainder are either indifferent to the companies or at least mildly inclined to favor them, and it is clear that detailed analysis fails to turn up more than 7% of any group who express a generally unfavorable attitude.

Such a finding requires some explanations. Why do people apparently regard the drug companies so favorably? Why, even among those who might be expected to hold an unfavorable attitude, is so little criticism expressed?

The following section suggests some answers to these questions.

IV
PUBLIC KNOWLEDGE OF THE DRUG COMPANIES

It is clear from a great variety of evidence that drug manufacturers have little "salience" in the public mind. (A concept may be said to have salience when it is "on top of a person's mind," when he readily associates it with related concepts. It has little salience if it's "far back in his mind," if he has to be reminded of its existence.)

One direct question relating to knowledge of the drug companies was asked of the total sample, and read as follows: "Can you think of the names of any of the companies that manufacture any of these new drugs? Any others you can think of?"

TABLE 1

	Percent of Total Sample
Not able to name even one company	56%
Can name one company, no more	16
Can name two companies	14
Can name three or four companies	12
Can name five or more companies	2
	100%

It should be noted that this is perhaps an unreal test of knowledge. It is likely, for example, that had respondents been shown a list of drug companies and asked which ones they recognized, the level of information would have been found to be much higher.

Our question referred to "companies that manufacture any of these new drugs," and it

is evident from the original interview material that most people have no clear idea of the process of drug development, manufacture and distribution, nor of the types of drugs handled by various companies. Thus, a person may have been well aware of such names as Lilly, Parke-Davis, Squibb, etc., but have failed to mention them here because he regarded them as "laboratories" or "research companies" or "wholesalers," and was not aware that they manufacture "these new drugs."

Nevertheless, the level of information is indisputably low. No one company was mentioned by more than 19% of the public, and all three of the most frequently mentioned were prominently in the news during the time of interviewing, as a result of their early production of Salk vaccine. It would be expected that had interviewing been conducted at a time when the mass media were given less attention to drug matters, public ignorance would have been considerably higher than that shown.

Again, the total public cross-section was asked: "What people or groups do you think have been mainly responsible for these new drugs? That is, who do you think did most to make them possible?" One would expect that the great pharmaceutical houses would be a natural response on the part of almost everybody, especially since interviewers were asked to probe for mentions of everyone the respondent could think of.

Table 2 presents the results of this question.

TABLE 2

	Percent of Total Sample
The drug companies, pharmaceutical houses, chemical industry, drug manufacturers	11%
"Laboratories" (not specified as belonging to drug companies, university or any other group)	9
Colleges or universities	5
The government	5
The military services or "the war" given as a cause of the development	3
Foundations, research foundations, Ford, Rockefeller, etc.	3
Voluntary agencies: polio, cancer, etc., public contributions to these agencies	4
Research doctors, doctors who specialize in research	8
Doctors (unspecified), the AMA, certain doctors, a group of doctors, etc.	23
Scientists, science, research, medical researchers, chemists, etc.	40
Miscellaneous: business firms, hospitals, etc.	3
Don't know, no opinion	29
Some people named more than one group	143%

It may be seen that most answers are quite vague. Almost a third of the people have no ideas at all on the question, while 40% of the answers refer only generally to "scientists" and researchers," and 23% talk broadly about "doctors".

It is probable, though not certain, that most of the references to "laboratories" are meant to describe the drug manufacturers, but even when the first two groups in the table are combined, it is clear that no more than one person in five gives the drug companies any specific credit for the development of new drugs.

A similar finding emerges from another question asked at a different point in the interview. Here the entire cross-section was asked: "What are some of the things that make it easier to have good health today than it was 30 years ago?"

The public volunteered a large assortment of reasons which need not be detailed here, most of them falling into one or more of the following general groups: higher standard of living, better working conditions, labor-saving devices, etc.; greater public knowledge of health and medical matters, a better attitude toward health; greater accessibility of medical services; and improvements in medical knowledge and facilities.

Of more importance is the fact that the last group of responses — improvements in medical knowledge and facilities — was mentioned by 71% of the public, and that almost half of the population (47%) specifically referred to the new drugs, medicines and vaccines which are now available. This was by far the most frequently mentioned of the specific reasons advanced for the better health which people enjoy today.

Yet when people were next asked, "Who or what is mainly responsible for this (the things that make it easier to have good health today)?", only 1% specifically mentioned the drug or pharmaceutical companies.

Doctors or the medical profession were suggested by 56%, and "science" or "research" were mentioned by 42%. Hospitals, the government, and colleges and universities, the voluntary health groups, health insurance plans — all received many times the number of mentions that the drug companies got.

A final bit of evidence comes from the questions, "What groups or individuals do you think had most to do with developing this new (polio) vaccine? Anyone else?" As might be expected, Dr. Salk and the Polio Foundation were each mentioned frequently, and so were the anonymous "doctors," "scientists" and "researchers" which the public credits with so many medical advances. In contrast, the drug companies are specified by only 3% and "laboratories" by 4%.

We have been talking, of course, of the public as a single group, and obviously some elements of the population are better informed than others. It is evident from the following table, for example, that the college educated are much more knowledgeable concerning the drug companies than are those whose education embraced only high school, and that the high school group is better informed than those who have only elementary schooling.

TABLE 3

	Attended College	Attended High School	Grammar School Only
Credit drug companies or laboratories with development of new drugs	33%	21%	10%
Can name 3 or more companies	37%	15%	4%
Can't name any drug companies	24%	49%	79%

Similarly, those people who have actually purchased such new drugs as sulfa, penicillin and the like, are better able to name drug companies and more likely to give them credit for health improvements than are people who have had no first-hand experience with such prescriptions.

Yet only minorities of even these more aware groups spontaneously mention the drug manufacturers when asked to tell us who developed the new drugs, who has contributed to the health advances of the last 30 years, etc. And only minorities of these aware groups can name more than one or two of the many drug companies which operate in the United States today.

If the drug manufacturers appear to receive very little public credit for their contributions to health, it is also clear that it seldom occurs to the public to blame them for anything that goes wrong.

We have already reported (Section II) that those who say drug prices are too high, or those who were unpleasantly surprised by the price they had to pay for a prescription, blame nobody for this state of affairs in about half the cases, and when they do mention someone as culpable, they focus more often on the druggist or "the middleman" than they do on the manufacturer.

A further opportunity to cast blame on the pharmaceutical houses was offered by a question, asked of everyone, which read: "As you may know, there has been some difficulty and delay in getting this (polio) vaccine to the people. Who or what do you think has been chiefly responsible for this?"

The detailed tabulations need not be presented here, but perhaps the most striking finding once again is the reluctance of the public to assign blame for a health or medical situation. Only one person in three gave any indication at all of blaming some group or individual. Another one-third of the public simply said they didn't know who was responsible for the situation, while the remaining third referred to difficulties in the situation (shortage of supply, need for further testing, etc.), but either implicitly or explicitly denied that anyone was to blame.

And as with the high cost of drugs, only a minority of those who did blame someone were inclined to criticize the drug companies. Nine percent of those with opinions referred specifically to the Cutter Laboratories, while 8% blamed the pharmaceutical houses in general. The government was blamed by 15% of the population, while the largest single category of blamers (18%) could mention only unspecified greedy or unpatriotic groups: "racketeers," "black marketers," "people trying to make money out of it," etc.

Thus, the same ignorance and apathy concerning drug manufacturers which results in little credit among the public for their achievements, leads also to their not being blamed for situations which the public views unfavorably. It may almost be said that few people ever think of the drug companies at all.

Table 4 shows that among the groups who are more aware of the drug manufacturers, there is a tendency both to give them more frequent credit and also more frequent blame — and, what is more important, to hold a

somewhat more favorable impression of them.

TABLE 4

	Percent Who Credit Companies for New Drugs	Percent Who Blame Companies for High Prices	Percent Who Hold "Very Favorable" Attitudes
Can name one or more companies	27%	8%	53%
Cannot name any drug companies	11%	4%	36%
Attended college	33%	11%	52%
High school only	21%	5%	48%
Grammar school only	10%	5%	34%
Credit drug companies for new drugs	100%	11%	57%
Do not credit companies	—	5%	40%

* * * * *

The foregoing material seems to explain in large part the earlier finding, puzzling at first, that in spite of complaints about drug costs, the polio vaccine situation, some unfavorable experiences with "wonder drugs," etc., the overwhelming majority of the public have at least a fairly favorable attitude toward the drug manufacturers, and in no group is it possible to find any significant hostility to them.

Most people accept high prices and other unpleasant aspects of daily life with good grace, realizing that all is not perfect in this world and that a bad situation may not be anybody's fault. Those who are sufficiently aroused to assign blame to the situation are apt to focus on someone whose connection with the situation they can clearly perceive.

In the case of drugs, this someone is more likely to be the druggist than the manufacturer, because the manufacturer never enters the mind of the average person. He has no direct dealings with these manufacturers, he seldom knows even their names.

As Table 4 indicates, increased knowledge of the drug companies has a two-edged effect. As the public become more aware of drug manufacturers and they become of greater salience to the average person, more people will pay credit to the companies for medical advances and other services they perform. But at the same time, other people (and often even the same people) will use that greater awareness to turn on the drug companies and to blame them for unfavorable situations.

There is virtually no hostility to the drug manufacturers at the present time, because few people think very much about them. While it is true that a greater knowledge on the part of the public would shift many attitudes from "fairly favorable" to "very favorable," this increased awareness would at the same time be likely to produce more hostility in the event of some future medical situation displeasing to the public.

V

THE INTERVIEWS WITH DOCTORS AND PHARMACISTS

As part of the larger study among the general public, supplementary interviews were obtained from small national cross-sections of two professional groups: physicians, and retail pharmacists.

Since interviewing on this phase of the study could not get under way till late summer, no final tabulations are available at this time. However, it has been possible to tally by hand the responses of approximately 300 of the 500 doctors in the sample, and of approximately 200 of the 500 pharmacists which were interviewed.

The results of these tabulations are in no sense definitive at the present time, but they are suggestive, and since some of them are relevant to the problems discussed in this report, we cite a few of the apparent findings on these pages.

That the costs of medical care in general are criticized less often than the cost of such items as food and repair charges seems supported by the statement of a majority of doctors that "hardly any" of their patients ever complain to them about medical costs.

Similarly, the public's feeling that hospital and drug charges are more out of line than doctor and dentist fees is also confirmed by the doctors interviewed. When asked, "What particular phase of medical care seems to get most of the complaints about cost that you do hear?", slightly over half mention hospital costs, about a third speak of the cost of drugs and medicines, and about four out of ten cite other types of costs, chiefly surgical charges and laboratory fees.

Doctors themselves are much more likely than the general public to regard prescription prices as fair. Fewer than 20% (as compared with 38% of the public) criticize them as

"much too high." Yet doctors admit that the cost of a drug has some influence on their decision to prescribe it. Only about a quarter of the physicians say that cost affects these decisions "hardly at all."

Though doctors are less critical than the public of high drug prices, they are much more likely to blame the manufacturer. This is not unexpected, of course, in view of their greater awareness of the existence of drug manufacturers.

When the public was asked, "What do you think are the main reasons some medicines cost so much?", it will be recalled that only 7% blamed the manufacturers. When doctors are asked the same question, around 30% of them make unfavorable references to the drug companies.

Among doctors blaming the drug companies for high prices, the most frequent criticism is of drug company advertising:

"Too much advertising — just not necessary to do as much advertising as they do"

"Most pharmaceutical houses waste too much money on mailing lists and advertising their drugs to doctors. It's expensive"

"Useless advertising. Basketful of it every Monday morning. It's not cheap advertising either"

Second most frequent criticism is of monopolistic practices, price-fixing and the like:

"Monopoly by drug houses, that's it"

"Price-fixing cartels in the pharmaceutical field"

"Company X — has held up cost of insulin for years — pure hoggishness. They had the only license to make it for years and they really took advantage of it"

Another common criticism is of wasteful duplication of drug products:

"When a new drug comes out they all get busy duplicating the same thing at unnecessary cost"

When asked whether there is "too much" or "not enough" writing of prescriptions today, about two-thirds of the doctors volunteer the opinion that the amount is "about right." About one doctor in five feels there is too much prescribing. In contrast, about 40% of the physicians say there is too much hospitalization today, and almost a third criticize the amount of surgery.

The minority of doctors who do feel that too many prescriptions are being written tend to say that this is demanded by the patients: "They don't feel they're getting their money's worth unless I give them a prescription." A comparable question asked of the public finds 28% agreeing with the statement, "Doctors like to give you medicine, even if you don't need it," while 65% disagree and 7% have no opinion.

* * * *

About a quarter of the retail druggists interviewed say they get complaints about prescription prices "very often" or "fairly often." About half say they receive such complaints "occasionally" while another one-fourth claim they "hardly ever" hear this criticism.

Pharmacists were also asked if complaints were heard about other prescription matters, and it is apparent that among all those mentioned, complaints about costs are the most frequent. In comparison, there are scarcely any complaints about waiting too long for the prescription to be filled or about the amount or type of medicine prescribed.

The responses of druggists provide some support for the previous finding that criticisms of drug costs are not a special characteristic of any particular segment of the population. A substantial number of the answers to "How much does a prescription have to cost before people start complaining about it?" came in such terms as:

"It depends on the individual. Some complain of an 89c prescription"

"You can't say difinitely. It depends on the nature of the person"

"Some fuss at any price. It's just how the person feels"

"If a person is going to complain he will"

While about two-thirds of the pharmacists take the position that criticism of drug prices is "hardly ever" justified, it is perhaps significant that as many as one-third feel they are at least "sometimes" justified.

Between 40 and 50% of the druggists have the impression that complaints about drug costs are more common now than they were ten years ago, but a quarter of them say such complaints are less frequent today, and the rest say they don't notice any difference.

(Continued on Page 497)

PRESIDENT'S PAGE



Fellow Pharmacists:

I could be a month or two late to comment on vacations. Although, whenever I leave the store on a trip as a 'break' from the daily routine, I will always find myself visiting other stores of our profession. It is a good idea to compare merchandising ideas of one another and also to discuss your problems with owners of other stores — also, maybe you can assist him with his problems. So much of this information is helpful to both parties.

We can strengthen our profession by working together and giving help to one another. Encourage all pharmacists to join their State and National Associations. Membership gives strength that can be heard when we need it.

Sincerely,

Albert H. Zarecky

President

GEORGE URDANG, WORLD-RENOWNED HISTORIAN OF PHARMACY, DIES AT 78

George Urdang died Monday, June 27, 1960, at age 78, after a career that had earned him international recognition as one of the greatest pharmacist-scholars ever to devote his talent to the study and writing of pharmacy's history. He reached retirement age eight years ago at the University of Wisconsin, where he was the first full professor in the history of pharmacy. Since then his professional activities had been progressively curtailed by parkinsonism. Three years ago he also retired as Director of the American Institute of the History of Pharmacy.

Born at Tilsit, Germany (13 June 1882) Dr. Urdang had been in the United States since 1938. Educated as a pharmacist at the University of Leipzig, he practiced pharmacy for nine years in Rosenberg, West Prussia. Already at this time his contributions to journals of pharmacy and other publications made him widely known. In 1919 he was appointed editor of the well-known German journal, the **Pharmazeutische Zeitung,** a position he held until the political uproar in Nazi Germany forced his resignation.

Urdang had taken up advanced historical and social studies, meanwhile, at the Universities of Berlin and Halle-Wittenberg, earning the degree of Doctor of Natural Science "with distinction." He was the first in Germany to receive such a degree on the basis of a historical thesis with pharmacy as a major. He also was the only one to receive his degree under the world-famous historian of science, E. von Lippmann.

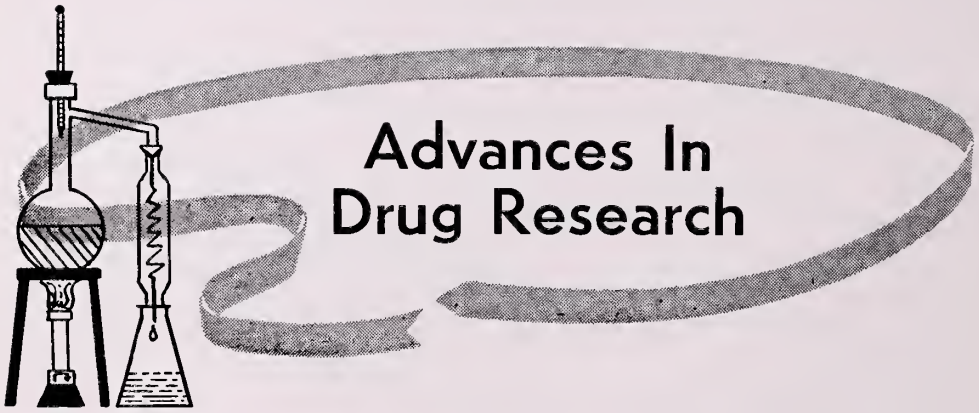
In 1926 Urdang founded, together with four friends, the German Society for the History of Pharmacy, which he served as director until 1934. After World War II, the Society made Urdang an honorary member and awarded him the Schelenz Plaque in 1949, the same year in which he received the Urban Medal and the Gunther Schmid Medal. Here in America he received an honorary Doctor of Science degree from the Philadelphia College of Pharmacy and Science (1946); he was selected for the J. Leon Lascoff Award (1951) by the American College of Apothecaries; and he had been an honorary member of the American Pharmaceutical Association since 1932. Honorary or corresponding memberships were accorded him by a variety of organizations in various parts of the world.

After arriving in the United States in 1938, Urdang took special studies to become licensed in America as a pharmacist; then accepted an invitation from Professor Edward Kremers at the University of Wisconsin to join him in writing the volume, "History of Pharmacy," which subsequently became a standard reference and text book in the field.

Under the influence of Urdang, and based upon his experience in the German society, an American Institute of the History of Pharmacy was founded in 1941, with headquarters in Madison and with Urdang as its first Director, a position he held until 1957. During his administration the Institute became one of the most productive and best-known specialized historical societies of its kind in the world.

In 1947 the University of Wisconsin created a chair for the history of pharmacy, with Urdang as the first occupant. Until he reached retirement age (1952) at the University, Urdang gave pharmacy students, through his teaching, a strong sense of their professional heritage and a keen awareness of their place in society and the health field, according to faculty colleagues. He educated the first three men ever to obtain the Doctor of Philosopy degree in the United States on the basis of historical studies and research in the pharmaceutical field; and he helped to give recognition and leadership to a type of scholarship in the science and scientific professions that has since made the history of science department at the University of Wisconsin one of the outstanding centers of its kind internationally, according to historians.

Urdang wrote a number of books and scores of articles that reveal and interpret many historical developments and contributions in the field of pharmacy. His conviction that "sense finding must follow fact finding," and that every student and every human being needs to be recognized and encouraged for whatever merit he has, were firmly held ideas that gave him affection as well as respect from students and colleagues alike.



A NEW POLIOMYELITIS VACCINE, 'PURIVAX'

The Salk Vaccine and Poliomyelitis

Development of the Salk vaccine against poliomyelitis, one of the greatest achievements of 20th Century medicine, has played a large and effective role in combating this dread disease from 1955 to the present. Since that year, 300 million doses of Salk vaccine have been distributed in the United States.

Yet, polio has been on the increase in recent years. Studies conducted by Doctors Alexander D. Langmuir and E. Russell Alexander of the U. S. Public Health Service show that more than 5,000 paralytic cases occurred during 1959 — 50 per cent more than in 1958 and double the number in the record low year of 1957.

Why? According to Langmuir and Alexander, the evidence points strongly to the conclusion that we in this country have failed to achieve adequate utilization of the Salk vaccine. Undoubtedly, many people fail to receive injections at all; others may be non-immune through failure to complete the series of injections recommended for maximum protection.

A series requires three injections covering eight months or longer, with the last (booster) dose given seven months or more after the second dose. People may forget, or perhaps are unaware of, the importance of the booster. Two Salk vaccine injections produce an immune response in about 61 per cent of those receiving them; the booster raises the immunity to more than 90 per cent.

A vaccine capable of producing a high degree of immunity after only two doses given one month apart could obviously play a significant role in protecting this susceptible population. Dr. Salk himself has repeatedly emphasized that it is better to use very potent vaccine for initial administration than to depend on multiple doses of less potent vaccine to accomplish immunization.

Advantages Claimed for 'Purivax'

'Purivax', developed through five years of research at the Merck Sharp & Dohme Research Laboratories, is just such a high-potency vaccine. Like the Salk vaccine now in use, it is of the killed-virus type and is given by injection. Unlike the vaccine currently in use, it produces immunity to polio in more than 90 per cent of recipients following two injections given one month apart. It also produces much higher **levels** of protective antibody, giving reason to believe the immunity will last longer, although this point is not yet clinically proved. In routine medical practice a third dose of the new vaccine is recommended seven month after the second dose to prolong and enhance immunity.

In the manufacture of 'Purivex' the polioviruses that go into the vaccine are purified and concentrated, and this is the key to its greater effectiveness. Previously there had been no known way, suitable for large-scale manufacture, of separating the viruses from the monkey kidney cells on which they are grown.

Because of this purification,

1. 'Purivax' if of uniform high potency, in contrast to the present vaccine, which varies markedly in potency from lot to lot. The amount of inactivated poliovirus in the new vaccine is precisely controllable, and every dose contains the same amount of viral antigen.
2. It is possible to concentrate a more potent dose in a smaller volume. Thus, 'Purivax' is administered on a 0.5 cc. dose, more suitable for vaccinating infants and young children. The dose with current Salk vaccine is 1 cc.
3. 'Purivax' contains no serologically detectable monkey kidney tissue, a foreign protein that might produce allergic reactions on repeated injections. Eighty-nine to 100 per cent of the nitrogen-containing material is viral antigen, compared with 1.3-2.5 per cent in the former vaccine. Although there was, and is, no current evidence to suggest any hypersensitivity reaction in man resulting from the monkey kidney component of Salk vaccine, the potential exists, especially as patients receive a fourth, fifth, and even a sixth dose.

Research and Development Highlights

The difference in potency among various lots of Salk vaccine first became evident during the original field trials conducted by Dr. Thomas Francis of the University of Michigan. In the primary immunity series, some gave good antibody response, and others induced immunity in only a small percentage of the recipients.

This situation, which has continued to the present, led scientists of Merck Sharp & Dohme to entertain the possibility of developing a better vaccine — one that would have high and uniform potency, protect against polio more quickly, be administered in a smaller dose, and contain no monkey kidney antigen.

A careful evaluation of these criteria led to the conclusion that one approach to making such a vaccine would be to find a way to purify poliovirus after its growth on monkey kidney cells, and then to make a concentrated vaccine from the purified material, placing a predetermined exact quantity of virus in each dose.

The project was under taken in the Merck Sharp & Dohme Research Laboratories, despite the fact that MSD's vaccine specialists were at that time heavily engaged in getting into the production of Salk vaccine, a task that had assumed formidable proportions.

The research was not to bear fruit for five years, and then only after concerted effort to solve a multiplicity of problems. Some of these required original and basic studies and scientists of many disciplines contributed. The program was under the direction of Dr. Maurice R. Hillman, Director of Virus and Tissue Culture Research, after he joined the Merck Sharp & Dohme Research Laboratories in 1958.

In 1957, Jesse Charney, W. P. Fisher, and R. A. Machlovitz reported success in purifying polioviruses, using a modification of a methanol precipitation method previously worked out by Drs. C. E. Schwerdt and F. L. Schaffer of the University of California. These purified polioviruses produced immune responses in chicks.

A significant further advance was made when Charney of MSD devised a new purification method adaptable to large-scale commercial operations. It was found that nucleic acid at low pH would precipitate poliovirus, and that this material, when further refined by a series of chemical and physical separation procedures, yielded as essentially pure virus product.

Months of laborious research and dozens of problems later, a purified vaccine was prepared for clinical trial. The method conformed in all applicable respects to U. S. Public Health Service regulations.

For the Type I component of the vaccine, the Parker strain of virus was substituted for the Mahoney strain used in regular Salk vaccine. During 1955 and 1956, as an after-

math of the Cutter incident, the Technical Committee on Poliomyelitis Vaccine in cooperation with the manufacturers of poliomyelitis vaccine sought to find a less virulent Type I strain of poliomyelitis virus to substitute for the Mahoney strain. The Parker strain was found consistently less virulent than Mahoney in the extensive test conducted.

For the Type II and Type III components, the new vaccine contained the MEF_1 and the Saukett strains, the same as those used in regular Salk vaccine.

The following is a brief summary of the process:

Virus of each of the three polio types is grown in monkey kidney tissue culture sheets and filtered through bacteria-proof filters.

Then (and here's the difference from the regular Salk vaccine process) it is subjected to an elaborate process of purification and standardization. The crude tissue culture virus fluid is filtered through a Seitz pad, and the virus is precipitated with nucleic acid. This is followed by enzymatic digestion with desoxyribonuclease and ribonuclease, and then a salt precipitation step to remove further impurities. The virus is centrifuged at 30,000 rpm for 5 hours, resuspended in buffered salt solution, and clarified by centrifugation at low speed.

The concentrated purified virus is inactivated with formalin for a period of ten days. On the seventh day and after the tenth day, samples representing large numbers of doses are removed for monovalent safety tests. A minimum of 1500 doses of each of the three monovalent concentrations are subjected to the same standard tests for detection of live virus as used for testing Salk Vaccine.

A trivalent vaccine is then prepared by pooling the properly inactivated and tested monovalent vaccines. Fifteen hundred doses are tested in tissue culture (to insure no live virus), and all of the test required for release by the NIH are conducted by the MSD Biological Control Laboratories. These tests include the courtisone monkey safety test, mouse safety test, tuberculosis, monkey potency, sterility, and final safety tests in mice and guinea pigs.

The clinical evaluation with the first purified vaccine prepared was undertaken to compare the amount of circulating antibody produced by the purified vaccine after two doses with the results produced by regular Salk vaccine. A one-month interval was established between the first and second doses. Altogether, 221 children took part in this trial, more than enough to provide statistically acceptable data. Extensive field trials were, of course, not necessary, since the additional information they would provide was already well-established for killed-virus polio vaccines.

The children taking part in the study included 94 who were serologically negative for all three types of poliovirus. Ages ranged from two months to 11 years, and the median age was seven to eight months.

Alternate subjects received either purified or Salk vaccine, with the purified vaccine administered in 0.5 cc. and Salk in 1 cc. doses. Both were given intramuscularly, and blood samples drawn for tests immediately before the first dose and one month after the second dose. No significant untoward clinical reactions were encountered in either group.

The data on the patients receiving the purified vaccine showed remarkable conversions from a susceptible to an immune status. The vaccine, given in two doses one month apart, produced an immune response to all three poliovirus types in 91 per cent of these children. In comparision, a commercial Salk vaccine of unusually high potency produced an immune response in only 63 per cent.

The purified vaccine also produced higher levels of circulating anti-body in the bloodstream than the regular vaccine — 3 to 5 times as high for the Type I component, 3 times as high for Type II, and 1½ times as high for Type III.

These conversions are the more remarkable since the children received less viral antigen than had been planned. This was discovered through studies on stability, which revealed an unexpected phenomenon — the highly purified virus was being physically absorbed to the surface of the glass container. This was not discovered until after the clinical trials had begun, and thus each subject received an unknown but reduced amount of virus in each dose.

Extensive clinical investigations now are progressing with material made under conditions that prevent adsorption. From these studies MSD scientists hope to be able to determine the actual quantity of antigen of each of the three types necessary to produce even higher conversions.

Present Status of 'Purivax'

It is evident that concentrated purified polio vaccine has successfully met the specifications designed for it.

The clinical information gives convincing evidence that 'Purivax' provides superior protection against polio. In a more speculative vein, it also leads to the hope that because the amount of antigen can be precisely controlled, a still more potent vaccine can be produced — one that can immunize nearly 100 per cent of the people who receive it.

Thirty consecutive monovalent lots have been manufactured under production conditions, and the most rigorous testing has demonstrated the safety and effectiveness of the process. As is usually the case with new medicinal products, the production cost is high at present — many times higher than the cost of producing regular Salk vaccine. However, manufacturing economies will undoubtedly be achieved in time.

Merck Sharp & Dohme has completed extensive studies on 'Purivax' and has submitted the data to the Division of Biologics Standards of the National Institutes of Health. All requirements of the Division for proof of consistency of the process and manufacturing details have been met, and the N.I.H. has released the first lots for use by physicians.

Purified polio vaccine is now an accomplished fact, after five years of research. It represents a distinct advance in polio immunology, and although the end is not yet in sight, another significant victory in the battle against this crippling disease.

PHARMACY PAPER—

(Continued from Page 485)

for research.

Thirdly, at one time we operated our association with a store owner as part time secretary. Possibly we must do this again, with staff aides and committees assuming some of the work load, thus giving us some extra money that can be used other ways in our search for solutions.

I feel there are many factors that must be considered before we make a hasty decision that might prove costly to all.

Our speaker scheduled for tomorrow morning, Mr. Angus Taylor, said last fall at St. Louis, "Change today moves at a speed to make it difficult to determine the adjustments that must be made in the operation of a drug store." "Economic factors must be evaluated and there are numerous problems to solve."

Yes, pharmacy has many problems. Probably the best we can hope for is not an elimination of our problems but a better understanding of what they are that we might best be able to cope with them.

I thank you for the opportunity you have given me to serve as your president this past year.

PHARMACEUTICAL ECONOMICS—

(Continued from Page 491)

Only about a fifth say they are ever asked to suggest a less expensive medicine instead of a costly prescription. (In reply to a question asked on a pretest of the public questionnaire but not included in the final schedule, fewer than 10% of the public said they "sometimes decided not to get their prescription filled.")

The explanations that druggists say they give to people who complain about the cost of prescriptions rarely blame the manufacturers directly and often do not even mention them. Instead, the druggist frequently talks about the value of the medicine, the quickness of the cure, the money saved over hospital bills, the fact that drug prices have gone up no more than everything else.

When the manufacturers are mentioned, it is often in terms of "These new drugs cost a lot to manufacture," and there are frequent references to research and labor costs.

However, about a third of the pharmacists, in their anxiety to show the customer that they are not to blame for the high prices, stress the fact that they themselves have to pay a lot for the ingredients. Some of them say they make a practice of showing the customer the recommended price lists, not with the intention of blaming someone else, but to convince the person that their own profit margin is a modest one.

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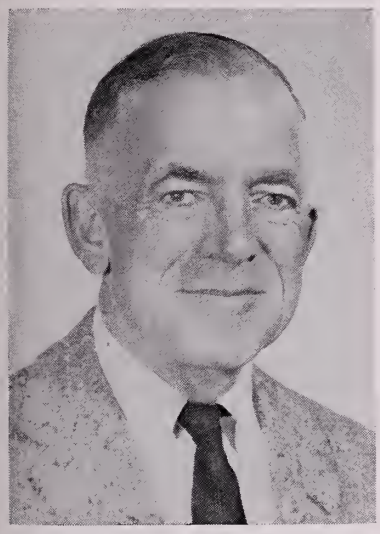
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Rx PHARMACY News



HUSTEAD APPOINTED PHARMACY BOARD MEMBER

Ted Hustead, prominent Wall pharmacist, has been appointed a member of the South Dakota State Board of Pharmacy. Announcement of the appointment was made by Governor Ralph Herseth recently. Mr. Hustead replaces Harold Mills, Rapid City, whose term expires September 30.

Mr. Hustead graduated from the University of Nebr. the University of Nebraska in 1929 with a degree of Bachelor of Science in Pharmacy. Following his formal education he passed the State Board examinations in Kansas, Nebraska, and South Dakota and is a registered pharmacist in those three states.

He has held positions as a pharmacist with Coy's drugstore at Dell Rapids; Dow Drug, Sioux Falls; and managed the store at Canova for Amos Klein.

In December, 1931, Mr. Hustead located in Wall, South Dakota where he has created a business of national and international reputation.

The Husteads have four children. His son, Bill, is a 1950 graduate of the Division of Pharmacy, South Dakota State College and is a partner with his father in the Wall Drug.

Mr. Hustead has held many offices in the state Pharmaceutical Association and was elected president for the year 1946-47.

LEBLANC—EIDSMOE HONORARY PRESIDENTS

Two distinguished South Dakota pharmacists and long-time pharmaceutical educators received the title "Honorary President of the South Dakota Pharmaceutical Association" at the annual convention of the Association recently.

The office of Honorary President of the Association was established two years ago to show the appreciation of South Dakota pharmacists to those of its members who have rendered distinguished service to the profession of pharmacy.

A poll of the South Dakota pharmacists indicated that two persons should share jointly in the award this year. Honored are Floyd J. LeBlanc, Dean of Pharmacy, South Dakota State College and Clark T. Eidsmoe, Professor and Head of the Department of Pharmacy, South Dakota State College.

Floyd LeBlanc is a Minnesotan by birth and a South Dakotan by choice. He began his career in pharmacy in 1916 — just out of high school — as a clerk in a drug store. In 1920 he enrolled in pharmacy at South Dakota State College and successively received the Ph.G. (1922) Ph.C. (1923), and B.S.

(1924) and M.S. (1927) degrees from that institution. He completed his graduate work at Purdue University and was awarded the Ph.D. in 1938. He was appointed an instructor on the pharmacy staff of South Dakota State College in 1924 and since then has risen through the ranks to the position of Dean of the Division of Pharmacy (1941) the position which he now holds.

Dean LeBlanc is a member of various professional and honor societies including Rho Chi, Kappa Psi, Sigma Xi, the A.Ph.A. and as many of you know, he has been active in the affairs of this association for many years. He has actively participated in church and community affairs and, among the local positions that he has held has been that of president of the Brookings Rotary Club.

Throughout his career he has had the highest ideals of his profession in mind and to their attainment has devoted himself unselfishly.

Clark Eidsmoe is a native South Dakotan. His place of birth is Beresford. His career in pharmacy began in 1911 with enrollment at South Dakota State College. He succesively received the Ph.G. (1913), Ph.C. (1928), B.S. (1929) and M.S. (1931) degrees from that institution. In 1929 he was appointed instructor in Pharmacy at South Dakota State College bringing with him years of valuable experience in the retail field. He has been on the State College staff since that first appointment. In 1940 he attained his present rank of Professor Pharmacy and Head of the Department of Pharmacy.

Professor Eidsmoe has been active in professional affairs at local, state and national levels and has served in numerous capacities for various pharmaceutical groups. He was chairman of this associations prescription pricing committee from 1935 to 1938 and as such was instrumental in developing a prescription pricing schedule for South Dakota which was adopted by this association and received national attention. Nationally he has occupied important posts in the A.Ph.A. — of which he is now a life member — and the A.A.C.P. He was Secretary-Treasurer of the latter organization from 1942 to 1947. He is also a member of the honor society of Rho Chi and the professional fraternity Kappa Psi.

In addition to his professional association, Professor Eidsmoe has been active in civic and fraternal organizations and has served as Master of the Brookings Masconic Lodge and President of the Brookings Lions Club.

The presentation of these awards were made by Dr. Guilford C. Gross, Professor and Head of the Department of Pharmacology, South Dakota State College at the convention in Aberdeen. In making the presentation, Dr. Gross said, "I am indebted to your president for asking me to make this presentation because, over a period of 25 years of association with the two recipients, I have come to admire and respect them as individuals and to appreciate their devotion to the cause of pharmacy. The honor which you are showing them tonight is one that has my deepest personal endorsement. I think too that this occasion should have an added significance for them because not only does this award represent an expression of the respect and admiration of their colleagues in South Dakota pharmacy, but since many of those who participated in their selection are also former students of theirs, it represents many personal expressions of affection and gratitude. While it would be possible to enumerate many of the professional accomplishments of these two men, I think that it can truthfully be said that their greatest contribution has been the instruction, counsel and inspiration that they have given to the many students of pharmacy who have passed through the portals of South Dakota State College."

M.S. DEGREE AWARDED RAMES

The degree Master of Science with a major in Pharmaceutical Chemistry was awarded to Miss Linda Kay Rames, Corona, at the summer commencement exercises, August 3.

Miss Rames held a fellowship of the American Foundation for Pharmaceutical Education while studying for her advanced degree. She has been accepted for entrance into the School of Medicine at the University of South Dakota where she will study toward the Doctor of Medicine degree.

Miss Rames' thesis was entitled "The Chemical Effects of Gamma Radiation on Blood Sugar."



Scientific PAPER

THE INCOMPETENT CERVIX

Hubert H. Theissen, M.D.

Rapid City, S. Dak.

Presented for the South Dakota Society of Obstetrics and Gynecology at the Annual Meeting of the South Dakota State Medical Association, Rapid City, South Dakota, Monday, June 21, 1959.

From the Departments of Gynecology and Obstetrics, Rapid City Medical Center, Rapid City, South Dakota, St. John's McNamara Hospital, Rapid City, South Dakota and Bennett-Clarkson Memorial Hospital, Rapid City, South Dakota.

I'm sure that sometimes all of us feel that obstetrics is a somewhat static art with very few startling changes in the field of conception, delivery techniques and so forth.

Today I would like to summarize our present knowledge about a recently described entity in obstetrics: The incompetent cervix with its surgical correction techniques which appears to hold the greatest advantage for correction of certain mid-trimester abortions.

It has only been within the last ten years that concentrated effort has been directed towards increasing our fetal salvage, particularly in the premature group. Prematurity is still the greatest cause of death in infants, as is shown by the fact that it ranks seventh as a cause of all deaths. Majewski and Jennings have calculated that between six and seven per cent of the total United States, births have been consistently premature. Prior to 1950, attempts to control premature labor were limited to the use of wheat germ oil, bed rest, large amounts of progesterone, thyroid, estrogen, anterior pituitary hormones and the like.

However, it took the work of Lash and Lash, of this country, Shirodkar, of India, and Palmer, of France, to bring prominent focus to the anatomical reason for the cause of some

of these premature labors. Until these articles, which were all published in 1948-49 and 50 there was no mention made of this cervical deficiency as a cause of habitual late abortion in any of the standard texts of obstetrics and gynecology.

The incompetent cervix is now regarded as a very distinctive clinical entity and more reports substantiating its identity have been accumulating in the literature in just recent times. Actually, the number of patients who abort in the middle trimester of pregnancy is quite small when compared with the number of patients who have first trimester abortions or with the number of patients who have premature labors due to other causes. When one eliminates those cases in which factors other than a defective cervix may be at fault, the numbers attributable to the incompetent cervix is actually smaller still. It has been reported by Smith that the combined total of cases reported since the original publication of this condition does not greatly exceed two to three hundred in number. This, however, lists only those who have been reported in the literature and does not include those who have been surgically corrected throughout the country, with increasing frequency in the last several years.

CLINICAL PICTURE: The following conditions should be present in establishing the diagnosis of an incompetent cervix:

1. Principally in multigravid, although Trythall found 13 primigravids with a congenital inadequacy of the cervix, 32% had no previous pregnancy, abortion or curettage.
2. Usually a history of one or more previous mid-trimester pregnancy losses.
3. Sudden loss of amnionic fluid between the 16th and 28th week of gestation.
4. No antecedent painful labor-like uterine contractions.
5. Cervical dilation and effacement in mid-trimester of pregnancy.

The mechanism of this condition is usually thought to occur as a certain stage of distention of the uterus has been reached, usually at the mid-trimester. This defect would appear to occur at the isthmic portion of the uterus which at approximately the 15th week begins to form lower uterine segment. After this time, and usually without forwarning, the lower uterine segment becomes completely effaced and dilated. Through the dilated external opening the bag of waters can usually be palpated and without the slightest provocation, the bag of waters ruptures spontaneously and the fetus is quite readily expelled.

ETIOLOGY: The most frequent causes of the incompetent cervical os:

1. Congenital inadequacy in the cervix.
2. Vigorous dilatation and curettage with over-dilatation and resulting laceration of the cervix.
3. Curettage with injury to the cervix, especially at the anterior wall of the cervico-uterine junction.
4. Difficult or traumatic operative delivery.
5. Intra-partum incision (Duhrssen's) of the cervix.
6. Difficult delivery of the shoulder through an unsuspected constriction ring.
7. High amputation or conization of the cervix.

Strangely enough in those people whose obstetrical history suggests incompetency of the cervix, very little, if any, visual injuries or abnormalities of the cervix can be noted upon examination.

Under conditions of a modern obstetrical and gynecological practice the sequella of an operative delivery may be so minimal so as to mask any damage to continuity of the internal os. Some authorities feel that at least 66% of all these cases are traumatic in origin. Among the proponents of a congenital maldevelopment or hypoplasia of the cervix are shirodkar, Hunter, Jefcoate, Wilson, Greene Armytage.

The possibility of alternative or supplementary etiologic factors such as ovular or endocrine abnormalities may be present in this condition has been considered, but there has been no active clinical investigation of this problem to this date. Just as a fundamental anatomical review for those people who do not actively engage in obstetrics constantly, let us recall that the uterine cervix is composed mainly of fibrous tissue, while the uterine corpus is made up primarily of smooth muscle. The junction between the upper end of the cervical canal and the lower end of the body of the uterus is given the term, internal cervical os. In the non-preg-

nant stages as well as the first three months of pregnancy, the internal opening is more of a histologic rather than an anatomical landmark, in as much as it marks the transition point between tall columnar cells of the endocervix and the endometrial and muscular layer of the endometrium and myometrium. Anatomically, however, the upper end of the cervical canal is separated from the cavity of the uterus by a short constricted canal formed by a zonal ring of myometrium comprising the lower most portion of the wall of the corpus uterus, that is the isthmus uteri. After the third month of pregnancy, the isthmic wall and the canal are gradually expanded and are thus eventually incorporated into the walls and cavity of the corpus uteri, and when this occurs the internal os becomes the anatomical as well as the histologic point of separation between the cervix and the corpus and forms a shelf upon which the lower most pole of the growing ovum impinges for the remainder of the pregnancy.

Now from this brief discussion it can be readily appreciated that after the third month of pregnancy the cervix or more correctly the internal os must support the weight of the growing ovum whenever the mother is standing. Some authorities have described two rings of erectal tissue or a muscular sphincter which is to contribute to the support of the internal os, of the cervix serving to reinforce this zone. It would therefore seem that the cervix plays a very definite role in maintaining the ovum in utero, at least during the last two trimesters of pregnancy, and that a defective or traumatized cervix could be a factor in the failure of a pregnancy to go to term. Considering again the high incidence of premature labor in twin pregnancy or polyhydramious it would seem that a relative or a temporary degree of cervical incompetency must be due to over distension of the uterus with its increased intra-uterine pressure on the internal os. This would seem especially logical in that many episodes of premature labor in these patients can be postponed by the simple expedient of putting the mother completely on bed rest during the last trimester.

DIAGNOSIS: A high index of suspicion is extremely important in establishing the diagnosis of the incompetent cervix. Any history of repeated pregnancy loss in the mid-trimester, especially associated with premature rupture of the membrane is usually highly significant. These patients conceive quite easily and many times this condition is first suspected after two or more of these premature births. Careful history is therefore of prime importance. This condition can also be physically demonstrated in both the pregnant and the non-pregnant state. In the non-pregnant state many people feel that the use of an ordinary uterine sound can demonstrate cervical inadequacy. For example, if there is loss of integrity of the internal os, the olive shaped tip of the sound will move in and out of the uterine cavity with the greatest of ease. However, with a normal cervix a very definite resistence will be noted at the level of the internal os. There is practically always no sensation of pain or distress with the passage of a uterine sound or a dilator.

Radiologically the incompetent cervix can be demonstrated by using a small balloon attached to a Best-Mixter cannula. The cervix is grasped with a tenaculum, the balloon is then inserted into the uterine cavity. Three to four cc's of iodized oil solution is introduced into the balloon. The tenaculum is then removed and the first x-ray is taken. Traction is then placed on the balloon and another film is taken. This usually gives a very clear outline of the cervico-uterine angle. Small amounts of oil are removed, traction applied, and series of films are taken. This would demonstrate the normal contour of the cervical canal. Another method is the Lipiodol technique. A Rubins cannula is inserted into the uterine cavity and 4 cc's of Lipiodol is instilled. In the normal cervix, with the cannula in place, there is no flow around the cannula tip and in the cervical canal. In the incompetent cervix however, the converse is true. When the cannula is removed allowing the Lipiodol to flow out, a radiograph will demonstrate whether or not there is any significant widening of the internal os.

Another method of determing the inadequacy of the cervix is done by means of the #16 Foley bag catheter. The catheter is inserted into the uterus and the balloon is distended with one milliliter of the water and the amount of force required to withdraw the catheter and the inflated balloon is then

measured on a small spring scales. Any force less than 600 grams would normally indicate an incompentent cervix.

DIAGNOSIS DURING PREGNANCY: With increasing evidence that the vagina can be safely entered anytime during pregnancy or even during labor without any untoward effect on mother or child, it becomes obvious that the convincing means of proving incompetency is to vaginally examine the patient at weekly intervals in the mid-trimester. If incompetency is present the cervix becomes effaced and dilated, usually between the 14th and 28th weeks. This process may occur gradually over several weeks time. On the other hand the cervix may be closed and uneffaced at one visit only one week later to find the cervix completely effaced and dilated. The membranes may be seen bulging at the level of the external os or the membranes may have "hour-glassed" into the vagina through a partially dilated cervix. In a completely typical illustration of this condition the fetal membranes are under no apparent tension. The uterus is usually not irritable, and the cervical dilatation appears to basically be a passive process.

TREATMENT: Shirodker and Barter have emphasized their observation that simple bed rest may serve to postpone or avert threatened late abortion or premature labor and this syndrome. It has even been reported that where fetal membranes have already been found bulging through a partially dilated cervix, confinement of the patient to complete rest in bed may reverse or at least arrest these developments sufficiently to allow the pregnancy to progress to a stage of fetal viability. However, in recent years the main theraueptic effort in this problem has been to achieve more certain and lasting effects through reinforcement or reconstruction of the cervix by surgical methods. Certain techniques have been devised and investigated for use during pregnancy and alternative or additional ones for use in the non pregnant state. In either circumstance, the use of such a method has proved to be promising except in those instances where the cervix has previously been amputated at a high level so as to make the outlook for future child bearing practically hopeless regardless of what plan of management. It is usually advised that surgical correction in which the bag of waters has already been ruptured is usually met with failure.

SURGICAL CORRECTION IN THE NON PREGNANT STATE: Initial efforts at repairing the cervix where first done on the non-pregnant patient with the history of previous mid-trimester fetal losses. Although the article was not published until 1950, Lash is given credit for repairing the first cervix in about 1941. His original technique was a "pleating" of the thinned-out portion of the cervix at the level of the internal os after having reflected the bladder. He had felt that the principal defect of cervical incompetency was a localized weakness on the anterior portion of the internal and the adjacent carvical wall as a result of curettage and dilatation. To accomplish the procedure, a transverse incision was made into the anterior portion of the internal os and the adand the bladder was elevated to approximately the peritoneal reflection. The defect could then be demonstrated, and multiple interrupted cat-gut sutures were placed over the defect.

More recently, after elevation of the bladder, a large wedge of anterior cervix was removed starting from the external os as the base to the internal os as the apex. The edges of the wedge are re-approximated with interrupted chromic sutures. The above repairs have been done electively on non-pregnant, well involuted uteri or carried out immediately following abortion. Of 44 that had been reported detail, 29 later became pregnant, 27 of whom eventually delivered full term infants.

Page has also attempted surgical correction in the non-pregnant state by employing a tourniquet of ribbon cat-gut submucosally introduced around the portio-vaginalis of the cervix at the level of the vaginal fornices. In the hope of producing a 360 degree contraction by an induced scar he has introduced a catgut Gelfoam tourniquet sprinkled generously with talc which is believed to be capable of stimulating fibroplasia.

SURGICAL TREATMENT DURING PREGNANCY: Obviously any operative measure permissable in pregnancy must be limited to comparatively simple procedures. The method originally described by Shirod-

kar makes use of a principle which has been adopted with variations by all subsequent reporters, that is, the placement of a "tourniquet" around the cervix submucosally and at a level as high on the portio vaginalis as is feasible. While other methods utilized three or four interrupted heavy non-absorable sutures placed into the cervix thus closing the cervix. At the onset of labor these sutures would be removed and a vaginal delivery would ensue. His procedure employed the use of homologous fascia obtained for the fascia lata of the thigh. However, cases have been recently reported in which the homologous fascia was completely absorbed by the patient and did not produce the desired stenosis, so that non-absorbable suture material made of inert dacron fiber has been tried with a great degree of success. The repair is technically the same as the original repair employing fascia lata with the exception of the use of the non-absorbable suture. Purse stringing of the cervix was found to be most easily done between the 14th and the 18th week of gestation, and other than just usual instruments employ right and left aneurysm needles. The technique of the most recent surgical closure of the incompetent cervix is as follows:

It has been found that occasionally mild Trendelenburg and the standard lithotomy position is of distinct advantage, especially if the bag of waters is already visualized through a dilated os. The cervix is pulled down by means of a ring forcep on the anterior and posterior lip of the cervix and a transverse incision is made into the anterior vaginal fornix. By means of blunt dissection, the bladder is then advanced to a point at the level of the peritoneal reflection. Occasionally this is difficult because of the soft consistency of the cervix during pregnancy and a cleavage plane is found with some difficulty. The bladder must be properly advanced if the encircling suture is to be placed high enough to be of value. A similar incision is made into the posterior vaginal fornix. The opening is made at about the level of the peritoneal reflection, and is usually approximately two centimeters in length. An aneurysm needle of proper size should then be carefully worked submucosally, entering from the anterior incision and extending to the posterior incision.

It is of advantage to have the ligature strip prepared with long silk sutures placed through each end for easy threading on the aneurysm needle. The ligature strip is then threaded through the hole of the aneurysm needle and pulled upward under the mucosa to exit anteriorly. The aneurysm needle is then similarly introduced downward, extending from the anterior incision submucosally on the opposite side and having its point of exit in the posterior incision. The encircling ligature is then threaded to the eye of the aneurysm needle and drawn upward so that the ligature will completely encircle the cervix. In order that the encircling ligature will not slip from the cervix it is usually advisable to anchor the ligature to the posterior fascia of the cervix by several interrupted non-absorbable sutures. Once the encircling ligature has been anchored in place posteriorly a loop is made anteriorly and the encircling ligature is tied. At this point it is somewhat difficult to determine the amount of tension necessary to produce cervical closure, however, let it be said that the cervix should not admit the tip of the finger after the ligature has been tightened. After adequate tension on the ligature has been produced the tourniquet is then anchored to the anterior portion of the cervix, preventing any slippage over the anterior tip of the cervix. The anterior vaginal mucosa can then be closed with interrupted sutures of chronic catgut.

Postoperatively the patients are usually placed on bed rest for a varying number of days, usually with sedation and some amounts of Progesterone. These patients are then allowed complete ambulation with the admonition that they are not to be on their feet for prolonged periods of time. Most authorities who have employed the non-absorbable dacron or mersilene strips in affecting a permanent closure, have strongly suggested Cesarean section as the means of delivery, however, in the event that because of technical difficulty the encircling suture slips or appears to be inadequate the material can be severed at the time of labor or at term, allowing vaginal delivery to ensue.

CASE ♯1: Mrs. J. H., 1956, 26 years old, gravida 4, para 0, was admitted to the hospital in her 20th week of pregnancy having

spontaneously ruptured the bag of waters, the fetus following almost immediately. The placenta passed spontaneously after hospital admission and no dilatation and curettage was done. History revealed that the outcome occurred with her three previous pregnancies. She had been on complete bed rest for the last two pregnancies, both of which were lost spontaneously. She had also been placed, by her attending physician, on large doses of Progesterone and Stilbestrol daily. There was no antecedent history of trauma in this particular case. It was suggested to this patient that perhaps a surgical correction of the cervix might result in a viable child, however, the patient returned to the Eastern part of the state and has not been heard from since.

CASE ♯2: Mrs. J. M., 1956, while visiting relatives in Kansas City, and in her 26th week of pregnancy she spontaneously ruptured the bag of waters. She presented herself to the emergency room at a Kansas City Hospital, where without any premonitory signs of labor she delivered a previable infant which lived about 24 hours. In 1957 a similar occurrence occurred again at the same stage of pregnancy when the bag of waters spontaneously ruptured and upon presenting herself to the hospital, she was found to be seven centimeters dilated and delivered again a previable infant which lived 38 hours.

At 20 to 22 weeks gestation of her next pregnancy this patient was hospitalized and cervical closure was accomplished with the use of a mercilene strip employed submucosally at the level of the internal os. The post-operative course was completely normal. She had no uterine irritability, was dismissed to her home after one week of hospitalization and was delivered by Cesarean section of a 3400 gram fetus at 39 weeks gestation. There were no post-operative complications.

CASE ♯3: Mrs. C. G. This primigravid was seen in the office in her 24th week of pregnancy because of a slight bloody show during three days previously. Physically, examination was completely negative except that speculum examination revealed the cervical os to be three centimeters dilated with the bag of waters protruding through it. This patient was hospitalized for cervical closure, however, there was such a marked degree of herniation of the bag of waters through the cervical os that Trendelenburg position was employed as a means of facilitating surgical closure. It appeared almost impossible to replace the amionic sack so that a silk purse string suture was placed directly around the external os of the cervix and the bag of waters retracted quite normally once the purse string suture was tightened. Two other purse string sutures were taken, each being advanced farther on the portio to a level approximate to the internal os. This affected complete closure. Following hospitalization for 10 days, she was dismissed to her home and followed at weekly intervals. During her 32nd week of pregnancy it was noted that one of the silk sutures had pulled through the cervical tissue, exposing a small portion of the bag of waters, at the external os. She was placed on restricted activities and in her 33rd week of pregnancy the bag of waters spontaneously ruptured and because of the possibility of intra-amion infection the remaining silk sutures were removed. Cervical dilatation was noted to be three centimeters immediately following the removal of the sutures. After a period of 12 hours labor ensued lasting 4½ hours. The infant, although premature, was vigorous at birth, and is living and well and normal at this time.

CASE ♯4: Mrs. M. O. L. This case is presented merely to point out that there are varying degrees of cervical incompetency, some of which are not obvious until the last trimester of pregnancy. This 20 year old primigravid in 1957 had a completely uncomplicated medical and surgical history and during the course of her routine prenatal visits was found to have a two centimeter dilated cervix in her 36th week of pregnancy which then dilated to four to five centimeters at her 37th week. She delivered spontaneously one week later after a one-half hour "labor." At the time of delivery the cervix was inspected and was found to be essentially normal. A cervical erosion was noted at six weeks examination which was electro-cauterized. This child weighed 7 lbs. 6 oz. Her last pregnancy ran a similar course. Her LMP was September 12, 1958, and her expected date of confinement was June 19, 1959. The pregnancy progressed quite normally although a notation was made to observe her for an incompetent cervix. In her 30th week

of pregnancy she noted the onset of a back ache and vaginal examination revealed the vertex to be deeply in the pelvis and a cervical dilation of approximately two centimeters. She was placed on restricted activities and followed at weekly intervals during which time the cervical dilatation remained at two centimeters. However, progressive cervical dilatation to 4 centimeters was noted at her 34th week of pregnancy and one week later she spontaneously delivered after an extremely short first stage of labor, a viable premature child which at this time is living and well.

Two cases almost identical to the last were encountered in 1959 and are mentioned to point up the frequency with which this condition can be encourtered in private practice. Also two Shirodkar closures employing dacron mesh were done just recently in Rapid City by our colleagues.

DISCUSSION: Incompetency of the internal os of the cervix with its inability to contain the enlarging pregnancy appears now to be positively established as a complication of the middle trimester of pregnancy. It is also not a rare entity as evidenced by the authors cases. The surgical correction for treatment of this condition has been used only in recent years. It is entirely conceivable, therefore, that many of the middle trimester pregnancy losses for which there was no previous explanation, might have occurred as a result of this condition. The purse string operation as devised by Shirodkar seems to have many advantages over other procedures described to date. It has the distinct advantage over the Lash procedure in that it can be done during pregnancy. Prior to the introduction of his fascial closure of the cervix, the patient who is found to have an incompetent cervix during a pregnancy was doomed to the loss of her pregnancy or to complete bed rest. It has been conceded by most authors that complete bed rest provided no assurance that loss of the pregnancy would not be the ultimate result. It would seem too that the tourniquet closure of the cervix is somewhat technically easier to do after the tissues of the cervix and the vagina have undergone the changes of pregnancy. Let me mention too, that the advantage of performing corrective surgery during pregnancy is that the certainty of the diagnosis can be proven, and if the operation has been done on a patient who is not pregnant, pregnancy might not take place postoperatively. The purse string operation is reported to be done as late as the early part of the third trimester but most authorities indicate that the best results can be obtained before more than a moderate degree of effacement and dilatation of the cervix has occurred. In those cases, where some degree of dilatation is present there is also some degree of amionitis. In such patients this inflammation has been responsible for the establishment of uterine contractility which may ultimately cause the patient to abort. Therefore, closure of the cervix between the 14th and the 18th week of pregnancy, or before the cervix has begun to dilate and efface seems to be the means of eliminating the inflammation of the amion. Much has been written about hormone studies but most people feel that a physical defect is the basic nature of this condition and that hormone assay are not of special significance.

There is much controversey as to the type of suture material to be employed. Both homologous fascia from the thigh and the preserved human and ox fascia have been used, each of which has its disadvantages. The disadvantage of the homologous fascia appears to be the removal of the fascia from the thigh with its prolongation of the surgical procedure, the sometimes painful scarring of the thigh and that there have been sufficient instances in which the fascia graft has been absorbed making the surgical repair inadequate.

Preserved human or ox fascia has been utilized to some degree but it has the disadvantage of fraying quite easily and it will stretch to a certain degree. There is, however, no painful scarring on the thigh of the patient. Several authors have noted that the use of Gelfoam saturated with talc has been only partially effective and as a possible source of suture material has been discarded by most authorities. Other non-absorbable material such as polyethylene has been tried together with braided silk sutures. It would seem that from perusal of the literature that most authorities who employ the braided silk sutures do so mainly for closure of the

cervical os when a fairly marked degree of cervical dilatation, effacement and bulging of the bag of waters has already occurred.

It was dissatisfaction with the fascial graft that prompted prominent authorities to look to synthetic dacron material as more suitable material for cervical closure. This material produces only a minimal degree of tissue or connective tissue proliferation, and should provide a more permanent type of repair. It should also allow the patient to have more than one gestation without the necessity of repeated subsequent cervical closure. It must be remembered, however, that if a permanent type of closure of the cervix is contemplated, the patient must be advised that a Cesarean section would be the preferred type of delivery.

The purse string operation by allowing the patient to be ambulatory has a great degree of appeal to any patient who has spent many months of a previous gestation at bed rest. Fortunately, the condition of cervical incompetency manifests itself only in a small group of patients. The surgical correction of this condition is not a procedure to be undertaken in conditions of habitual abortion in which condition other than cervical incompetency is encountered. It is imperative that if this operation is to be employed that it is to be used only in selected patients, for not only does it subject the patient to one operation but if this operation is successful it predisposes the patient to ultimate Cesarean section. Percertage wise this condition holds a success rate of approximately 79 to 85% in experienced hands.

CONCLUSIONS: This paper has been presented to awaken our thinking to recognizing a select group of patients who can be helped surgically by cervical closure if incompetency of the cervical os can be demonstrated.

This method should not be employed in those cases of habitual abortion in which causes other than incompetent cervix can be demonstrated.

The technique of cervical closure by means of the Lash procedure in the non-pregnant state has been described, and the surgical closure of the cervix by the Shirodker modification employing a dacron mesh (mercilene) is also described for in pregnancy closure. The advantages and disadvantages of both procedures have been outlined.

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WILLIAM RIEB, M.D.
1907—1960

Dr. William G. Rieb, 53, died at the Sacred Heart Hospital at Yankton, August 4 following an 11-year illness.

Funeral services were held at the Salem Lutheran church, Parkston, S. Dak., Saturday morning, August 6, 1960.

Dr. Rieb started practicing medicine at Parkston in 1936. He was a member of the state medical society, Phi Chi (a medical fraternity) and belonged to the Parkston Lions Club.

The widow, three children, and three grandchildren survive.



Review on Reconstructive Surgery of the Middle Ear

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Report held on the annual meeting of the South Dakota Medical Society.

Presented at the Annual Meeting of the South Dakota State Medical Association.

It is an honor and pleasure for me to address the South Dakota State Medical Society at the annual meeting. I had to call the paper I am going to present a preliminary study, since the number of the patients I have to refer to is relatively small. There are only about 46 cases which would give for the statistical evaluation too big an error. On the other hand this small number represents almost all the problems and varieties encountered and treated in todays reconstructive surgery of middle ear. More emphasis was put into establishment of the terminology. Case reports will show in brief the different procedures and the results. Problems as clinical evaluation, symptoms, physiology, preoprative evaluation and indication, as well as complications, results and prognosis should be subject to a further study. At the present stage of development of the reconstructive surgery of the middle ear every study may be helpful.

The term reconstructive surgery of the middle ear is relatively new and is just on the way to be generally accepted. It embraces all procedures performed on the middle ear or parts of it with the goal to restore, protect or preserve the hearing

mechanism. Therefore, we will find in this now large category the well-known different types of the old-fashioned mastoidectomies, the so-called tympanoplasties and myringotplasty, the stapesoperations and the fenestration operation. I also would like to add for the purpose of this paper, the simple myringotomy which is mainly performed in children with hypertrophic adenoids and impaired conductive type of hearing loss. I will try to present one example of every kind of surgery of the middle ear, and discuss briefly the characteristic features prevailing. Sometimes we meet with the opinion that the advent of the antibiotics has almost completely eliminated the earsurgery. As you will see this is not true, rather the contrary. The refined technique and the acurate working with the dental drill and the operating microscope has enabled us to perform procedures which did not have an indication for surgery a few years ago.

Mastoidsurgery:

The so-called simple mastoidectomy as described by SCHWARZT with its modifications is still performed. In most cases it probably has been replaced by the modified radical mastoidectomy.

The modified radical mastoidectomy is a procedure in which the chronically diseased mastoid cavity is operated, removing the entire mastoidcells. The ossicles found to be intact and normal in movement are left in place.

Case report:

Roger F., 6 years old, complaining of persistant earaches and intermittent discharge from both ears, which has been treated excessively with antibiotics of every kind. The x-ray examination reveals that both mastoids are poorly pneumatized and chronically infected. The hearing at the time of examination shows only a mild degree of conductive type of hearing loss contributory to the fluid within the middle ear. On March 2, 1960, a modified radical mastoidectomy was performed on the left side. The few remaining mastoidcells were found to be filled with hyperplastic mucous membrane and thickened fluid. The histological examination revealed chronic inflammation with calcification and hemorrhage. The patient was reexamined on March 31, 1960, and his hearing was back to normal and the operating area was already dry.

The procedure which is sometimes preferred, is the radical mastoidectomy. The operation is grossly performed like the one mentioned above with the only difference that here the diseased ossicles are removed, being of no value anymore for the hearing acuity.

Case report:

Robert C., age 7 was submitted to mastoidsurgery and radical mastoidectomy. It was done on January 4, 1960, on the right ear. The ossicular chain including the stapes was found to be partly destroyed. It had to be removed as well as the chronically infected tissues, in order to obtain a clear cavity. The ear re-examined on May 2, 1960, was found to be dry. The patient has had a hearing loss of a conductive type of 45 Db at 500, 40 Db at 1Kc and 25 at 2Kc. Pathology report: showing severe subacute and chronic inflamation with calcification.

This hearing loss will make the patient eligible for a tympanoplasty procedure later, when the mastoidcavity will be dry and nonreactive.

Frequently it is possible to determine the type of surgery which will be necessary only at the operating table. As the case above shows, occasionally a two step procedure needs to be done with tympanoplasty as a second stage. The term T y m p a n o p l a s t y was first introduced by WULLSTEIN in 1953. I had the pleasure of meeting Dr. W. in Minneapolis, where he performed and demonstrated one of his procedures. As SHAMBAUGH puts it, "tympanoplasty is the final step in the surgical conquest of conductive type of hearing loss." It is nowadays in general preferred to the old mastiodectomies .... WULLSTEIN distinguishes five types of tympanoplasties. The principles involved are easily described.

1. **Type 1** is the type in which there is a central performation of the eardrum. This procedure also could be called myringoplasty only that WULLSTEIN also inspects the attic area and antrum through control holes.

Case report:

Mrs. G. H., 35 years of age, comes in with complaints of buzzing sensations within the right ear, present for several years. She is aware of the fact that there is a perforation in the eardrum, the hearing loss is only occasionally noticed by her. X-ray examination of the mastoids is entirely neg. The audiogram reveals a conductive type of hearing loss of 25 Db in the speech frequencies. A myringoplasty was performed with a full thickness skin graft from behind the external ear. The reexamination after 6 weeks showed that the drum was closed, the annoying noises had disappeared and the hearing was back to about 10 Db in the Sp. F.

2. **Type 2** is the kind of tympanoplasty in which mobile and intact ossicular chain is found except for a small defect that can be bridged by placing the skin graft used to close the perforation against the stapes, incus and head of the malleus. No cases to report on this type.

In Type 3 the stapes is intact and mobile, malleus and incus not usable. The tympanic membrane is depressed against the stapes producing a myringostapediopexy with shallow middle ear cavity.

Case report:

Ronald G. Indication to a mastoidsurgery was given. On surgery the mastoid was found to be chronically infected, the incus and the hammer were present but partly destroyed and therefore not usable as a normal chain. They were removed and the middle ear cavity was covered with a skin graft. The postoperative examination revealed an hearing improvement to 10 and 15 Db in the Sp. F.

Type 4 shows the stapedial crura destroyed but the footplate is still mobile. The middle ear cavity and the Eustachian orifice to the middle ear and the hypotympanon and the round window are reconstructed. The stapes footplate is left exposed covered only by full-thickness skin graft.

A type 5 is chosen when the stapedial crura are gone and the footplate is fixed. The sound waves are not transmitted through the oval window. In this type a closed middle ear cavity is created and a new fenestra is made as in a fenestration operation. Since this type is relatively rare, I am not able to present such a case.

The procedures mentioned above are generally indicated in chronic suppurative diseases of the mastoid and middle ear cavity. The diagnosis is usually confirmed by x-ray examination and the audiogram gives the first suggestions which kind of procedure should be chosen. Control of the discharging mastoidcavity and hearing conservation are superior considerations. Tympanoplasty is usually indicated when the audiometric examination reveals a hearing loss of 25 Db in the ear involved as compared with the other ear. Practically the only contraindication of the tympanoplasty is in a case where a dead labyrinth or cochlea prevails. It also should be delayed in labyrinthitis, meningitis, brain abscess or lateral sinus thrombosis where optimal drainage will be desirable immediately.

The first useful procedure for the **stapesmobilization** was described by ROSEN in 1953. ROSEN wished in 1952 to determine the movement of the stapes at an intended fenestration operation. He mobilized the stapes accidently and obtained a good lasting improvement in hearing. Other reports, however, are available on surgery of the stapes which date back as far as 1878 (KESSEL). Ever since ROSEN reported his procedure many publications are available. Progress has been made in this delicate surgery. At the present time there are several different ways available to operate on the middle ear and the stapes whose movement is blocked or impaired, by an otosclerotic focus. Here I would like to mention two cases I had the opportunity to operate on.

a. Case report:

Robert B., 45 years old. On examination the diagnosis of a clinical otosclerosis was made. His right ear was operated on November 9, 1959. The preoperative audiogram revealed a hearing loss of 50 Db at 500 and by 1Kc and 40 Db 2Kc. The postoperative audiogram from April 1, 1960, showed a hearing of 20 Db by 500 C and 10 Db at 1 and 2 Kc. The procedure performed was a stapesmobilization.

b. Case report:

Virginia J., 28 years of age, who had worn a hearing aid for 14 years was operated first the same way as the patient above out with negative result. 4 weeks after the first stapesmobilization a stapedectomy on the right ear was performed. The stapes was removed, replaced by a polyethylene tube and vein graft. The postoperative evaluation revealed a gain in hearing from 50 Db in the speech-frequencies up to 25 and 20.

I can not go ahead without mentioning the fenestration operation or better the fenestra nov-ovalis technique as described by LEMPERT. Although there were others which operated on otosclerotic ears, Lempert's merit is in having described a useful method which was largely performed over the years, until the advent of the stapes technique. Today the procedure is only rarely indicated since we achieve better results easier by operating on the stapes. For that reason I am unable to present any case of fenestration operation.

Finally, I would like to be permitted to also mention the simple myringotomy. The usual indications for this procedure are well known. However, I experienced, as E. H. JONES did that little children rarely complain, especially not of their moderate hearing loss. The hearing loss is mostly discovered by parents and often they too are in doubt of their observation. They come in the office asking for advise and testing of the hearing. The underlying condition found is often a silent serous otitis media with more or less large amount of fluid within the middle ear interferring with the hearing. The reason for that we see so many ears with fluid is probably well-known to many of you. Treatment of acute otitis and tonsillitis with antibiotics and reluctance to perform a myringotomy, unfortunately frequently leaves some residual fluid. The antibiotics are not able anymore to control the infection and they never were to help to reabsorb the amount of fluid in the middle ear. Therefore, in cases where there is an indication for a tonsillectomy and adenoidectomy, a myringotomy is usually performed at the same time. The procedure is done by a radial incision in the eardrum which heals better. The diagnosis of fluid within the middle ear is often not made on examination, mostly only after paracentesis. Here too, I am in the preliminary stage of this evaluation, but I estimate that about 50% of our children have fluid within their middle ear, when they come to a tonsillectomy and adenoidectomy with more or less severe degree of hearing loss.

Case report:

Billy D., 7 years old, because of mouth-breathing and frequent recurrent earaches, and probably loss of hearing. An adenoidectomy was performed and a myringotomy bilaterally. A large amount of thickened fluid was obtained on suction. The preoperative hearing test was unfortunately not taken. But the postoperative observations of his grandfather who is a medical doctor were as impressing, because after the operation the boy asked his parents to turn the telephone noise down and the television, which loundness was now annoying to him.

As soon as the total number of the different kinds of procedures performed has accumulated, I would like to complete this work for the purpose mentioned at the beginning. Of special interest will be the statistical evaluation of the results, complications prognosis, etc.

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OPPORTUNITY FOR PREVENTION OF ALCOHOLISM THROUGH MEDICAL RESOURCES*

by
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Weather and some resistent social problems appear to have something in common. To paraphrase Mark Twain, everyone talks about them but no one does anything about them. For as long as man has been recording his experiences some have extolled the virtues of alcohol and others have decried its evils. Problems with which alcohol is associated are beset by so many attitudes and paradoxic reactions that one needs a program to recognize all the players on the stage.

It will be my purpose today to approach the problem of alcoholism from the vantage point of a physician. Since physicians attempt to treat and prevent illness it follows that I presume alcoholism to be a sickness. Hippocratic medicine has long been taught in terms of describing the phenomenon (disease); observing the course of the disease; attempts at modifying the course of the disease through intervention by the physician; efforts to discern the proximate and contributing causes of the disease state; and ultimately, prevention developed through control of the vectors of the disease.

Though this paper is primarily concerned with a discussion of the use of medical re-

sources in the prevention of alcoholism, it will be necessary to at least define the disease if we are to attempt to prevent it. In the recent paper **"Orientation to the Problems of Alcohol and Alcoholism,** Mr. Raymond G. McCarthy quotes a definition developed by the Yale Center of Alcohol Studies as follows: "Alcoholism is a chronic illness, psychic or somatic, or psychosomatic, which manifests itself in a disorder of behavior. It is characterized by the repeated drinking of alcoholic beverages, to an extent that exceeds customary dietary use or compliance with the social customs of the community, and that interferes with the drinker's health or his social or economic functions. Many special categories of alcoholics have been identified, including alcohol addicts who cannot control their drinking, and alcoholics with complications. The latter are those whose excessive drinking has led to recognized physical or mental sequels."[1]

This descriptive definition of the disease Alcoholism will serve as our departure point. Since the critical differentiation of the diseased individual here would depend on his observed behavior it might also be appropriate to offer a simplified definition of mental illness as the repeated inability of the person to meet his problems with what he has. The main differential point being the repetitive characteristic of the behavior.

Moving from these concepts of disease let us examine a framework of reference by which diseases are treated in the community. In the first diagram the patient is represented by an incomplete circle (Diagram I). It matters little whether this incompleteness is considered from the standpoint of a disorder of structure or a disorder of function. Necessarily, when one considers the disease of alcoholism one of the disease factors will be the substance, alcohol. The patient exists in an environment having physical limits and he lives within cultural bounds. Notably, when his behavior exceeds the limits of toleration of his culture he is regarded as abnormal. It is usually not until he has repeatedly demonstrated his abnormality that he is regarded as sick.

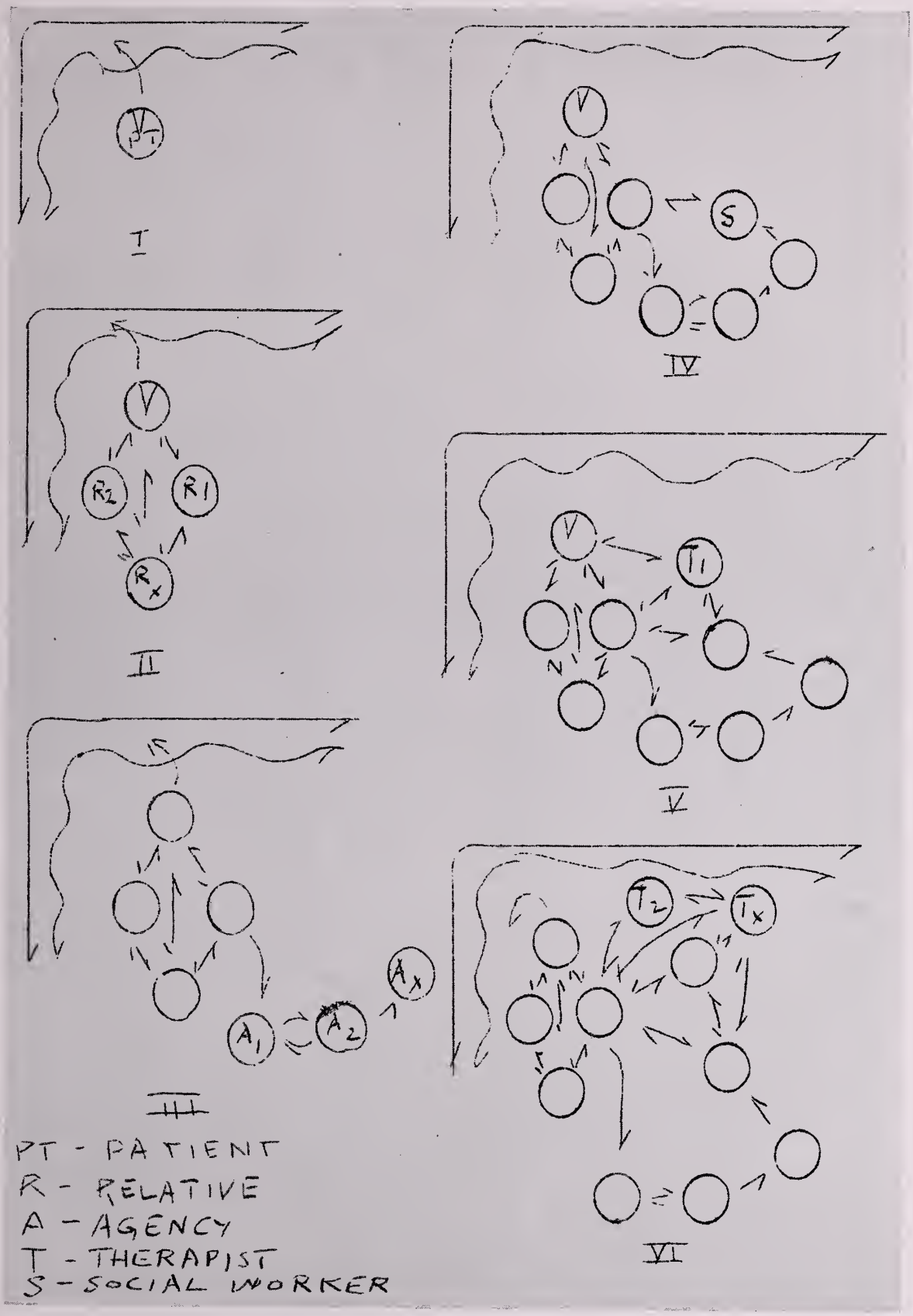
[1]The Secondary School In the Prevention of Alcholism Workshop, held in Albuquerque, New Mexico, February 29, March 1, 2, 1960.

During this incipient stage of his illness his behavior may be regarded by a wide range of hypothetical constructs, both by himself and individuals who surround him. The patient does not live in a vacuum. Indeed, he is usually surrounded by one or more individuals in the family constellation from which he stems (Diagram II). While this constellation may consist of more or less individuals than indicated, essentially this diagram illustrates the usual pattern of relatives on whom one is dependent or with whom one might compete. It is evident to some degree that the patient's constellation bears the coloration of his illness; that is, the biases of the close interaction and rationalization by himself and members of his family. This is so, regardless of whether one assumes the relatives bear a causal relationship to the patient's illness or whether they are themselves made anxious by the patient's behavior.

When some member of the patient's constellation becomes sufficiently disturbed by the patient's behavior a referral agent or agency is sought for some evaluation of the problem (Diagram III). An attempt to solve the problem or, referral to another agency is then made. Although the number of agents and/or agencies is quite variable usually more than one referral is necessary before a finding of sickness occasions the use of a health agency. In the referral constellation as well as in the patient's constellation the following evaluative judgments are frequently encountered; moral — good vs. evil; ethical — right vs. wrong; educational — educable vs. non-educable; competence — adequate vs. inadequate. The two way circular arrows indicate that a "game of musical agencies" is sometimes played to see who gets left with the problem person.

Ultimately some agent applies a health judgment — well vs. sick — and contact with a treatment unit is established. Usually this is the social worker of the hospital (Diagram IV). At this point an evaluation of the problem from the standpoint of sickness of the individual begins, and involves the therapy constellation through the chief therapist (Diagram V) and the therapeutic team (Diagram VI). Of course, the hospitalization of the patients sets narrower physical and somewhat broader cultural toleration limits. It also im-

DIAGRAMS



poses a regulation of the patient's life in such a way that factors relating to his illness are usually more favorably controlled. Almost all individuals having the problem of alcoholism improve physically following hospitalization simply by the abstinence enforced by the hospital routine. However, the concentration of therapeutic personnel and the physical limitations of the hospital serve to insulate the patient from the community from which he stems and thus potentially contribute to the furtherance of his disease from a behavior standpoint, usually in the form of regression or dependency. Partly, this may be overcome by the development of outpatient services which serve to link the community for his sickness (hospital) with the larger community of relatively well individuals.

There are other logistical problems in attempting to get the sick person to those who are going to treat him. Primarily these are concerned with time and distance. One might draw an analogy to the problem posed in attempting to glean a battlefield for casualties. In battle, medical service is organized so that the field is covered first by the aid men who find the wounded who are then transported to the Aid Station where more complex and definitive medical care can be instituted. From here, through collecting points one would pass to increasingly complex medical installations such as the clearing station, the evacuation hospital and the general hospital. It should be noted that the greater the distance from the battlefield the less likely the return of the casualty to the battlefield; so that a policy of "forward treatment" is initiated at every medical installation in order to get as high a turn-around as possible.

Since the patient having alcoholism could be considered an everyday psychiatric casualty, one of the problems in prevention would have to do with his early identification and treatment. Peacetime medical care is not as efficiently organized as that of the battlefield. For one thing, there is no continuity of medical service from the point where the casualty is recognized until definitive treatment is established. The First Aid Men of society are those individuals (ministers, teachers, policemen on the street corner, employers) who largely deal with normal individuals, and occasionally an abnormal person. The second echelon of organization would have to do with those individuals who serve in an administrative post and have to make decisions regarding behavior of other persons (the judge, the probation officer, the welfare worker who works with the alcoholic). The third echelon is comprised of general practitioners who would be treating a wide variety of medical disorders. The fourth echelon would be the clinics established primarily for the purpose of treating behavioral disturbance; and finally, the fifth echelon is comprised of the hospitals which could be mobilized to treat the condition. It will be noted that the first two echelons frequently are not connected at all to the remaining three medically oriented echelons. This produces a considerable disruption in the continuity of services. If prevention is to be effective, early identification of the disease is imperative and obviously a higher rate of return to the community can be effected at that point where the disease is in its incipient stages.

Unfortunately there are many factors which militate against this. Many of these are subsumed in the attitudes by which both the treater and the treated view the disease. Unfortunately everybody behaves and is therefore an expert on behavior. Usually, regarding his own behavior as normal, he uses this yardstick to measure all other behavior with which he comes in contact. Thus casualties frequently do not recognize that they are casualties, and the treaters who assume a moralistic attitude oftentimes reject the treated as being unworthy of their attention. The following example is an attempt to bring out some of this interaction and the difficulties attendant in trying to mobilize community interest and support in the problem of alcoholism.

> Recently one of our residents was assigned to one of our Community Services Clinics to get a first hand view of some of the complexities of Community Services. One of his assignments was attending a meeting concerning alcoholism. He states: "I attended a meeting at Outville concerning alcoholism. I had been informed that representatives of Inville Hospital would be present. As various people arrived at the meeting hall they

appeared to be confused as to the purpose of the meeting and who was participating. There was no official introducer or greeter. The meeting had been scheduled for 6:00 P.M. but got underway about 6:30 P.M."

A member of Retired Alcoholics initiated the meeting and attempted to explain its purpose. He did not make it clear to me. A social worker of the Inville Hospital then took charge of the program. She noted that many who were present had not attended the previous meeting and so they would review somewhat what had been presented at the first meeting. She made the purpose somewhat clearer — apparently it was to be a community effort to mobilize resources for the treatment and rehabilitation of alcoholics. She wanted to know what the community had accomplished in thinking about this since the last meeting. No answer was forthcoming. She made no effort to inform those present as to what might be wanted or what had been done in other communities. She mentioned Bigville but then hastened to add that she really didn't know what their program was. She then stated that she would inform those present about what type of services and care was provided at Inville Hospital and referred this to a young man who was also representing the hospital. He was a ward attendant on the alcoholic ward who was now to be a caseworker and do follow-up visits on discharged patients. He rambled on, giving an informal type of talk including difficulties in the ward and hospital administration; and expressing resentment against the care of chronic repeaters from Bigville. This was supported and reinforced by all the participants on the stage. Much emphasis was placed on how "nice things are," and "we have the best ward in the hospital." In general the attendant's attitude was derogatory and punitive.

A request was made for questions or discussion. Some mention was made of Outville's Mental Health Clinic. The social worker attempted to answer without knowing that the clinic director was in the group. At this point she decided to have everyone introduce themselves.

The following people were on the stage: A local member of Retired Alcoholics and the representative of the same association who is assigned to the alcohol ward at Inville Hospital; two staff members of Inville Hospital; the Director of Public Welfare for Outville.

"The following people were in the audience: the mayor, county commissioners, members of the county board of mental health, members of the police department and sheriffs office, members of veterans organizations and the American Legion Auxiliary, the administrator of the local hospital, members of the public welfare staff, and the staff of the mental health clinic-all of Outville."

Discussion: A local member of Retired Alcoholics reviewed past policies and administration of Inville Hospital. He also complained of Bigville's repeaters and referred to them as not really alcoholics. He indicated that Retired Alcoholics was working on legislation which would provide for long term jail sentences for chronic repeaters. The sheriff and public welfare director concurred in this view. Discussion then returned as to what the community might offer the alcoholic after he returned from the hospital.

"Some underlying feeling was present that other agencies should be equipped to deal with the alcoholic because many of them would not consult a psychiatrist or the association of Retired Alcoholics. I wondered if this was not simply temporizing and evading the issue just as the alcoholic does. The feeling seemed to be that not even the alcoholic should undergo the degradation of seeing a psychiatrist, however, jail terms would be acceptable."

The legal member of the County Board of Mental Health and the County Commissioner stated they recognized the need for services and prevention but are in doubt as to how to proceed.

Need for education became apparent; (it was brought out by one of the participants that this had been one of the main conclusions of the previous meeting); it was then noted that the educators (teachers and ministers) were absent

from the meeting.

"A steering committee was appointed to plan for the next meeting and to include more groups and individuals.

The meeting lacked organization and clarification from the onset. The community should know what would be desirable in an ideal situation and then they could work out their own resources to the best of their ability. The medical profession must not only provide consultation but offer some leadership and make it clear that we feel that treatment of this condition is part of our responsibility to the community."

Little needs to be said about the controversial attitudes posed by laymen and professionals alike. It is evident that a great deal needs to be done about these attitudes however, if effective, co-ordinated work is to be accomplished both in treatment and prevention.

It is noteworthy that the medical profession, 1957, began taking a more definite stand on the problem of alcoholism as a sickness. I quote from a guest editorial by Dr. Marvin A. Block which appeared in the February 16, 1957 issue of the Journal of the American Medical Association: "A step toward the eventual solution of one of the nation's most complex public health problems, alcoholism, was taken in Seattle at the clinical meeting of the American Medical Association last November. There, the House of Delegates approved a resolution of urging that all cooperative patients with a diagnosis of alcoholism be admitted without prejudice to general hospitals. Traditionally, the house of delegates recommended that the resolution be brought to the attention of the American Medical Association Council on Medical Education and Hospitals, the American Hospital Association, and the Joint Commission on Accreditation of Hospitals for the purposes of implementing educational approaches to the problems of alcoholism."

Recognition of alcoholism as a medical problem is thus an official policy of the medical profession and treatment of the condition of alcoholism is to be incoroprated in current medical teaching. One interesting experiment that we have tried has been to bring general practitioners from various areas of the state to the Nebraska Psychiatric Institute for training in treatment of the condition of alcoholism. These individuals then devote no less than one half day per week to treating this condition in the communities from which they stem. They also serve as informed members of the medical profession in planning steps locally to aid in the prevention of condition of alcoholism. Their work is gradually being integrated with that of the mental health clinics throughout the state which are also charged with education of the community regarding mental health problems. It is important in education that there be a clear indication of what cannot be done as well as what can be done by the medical profession in regard to this condition. Obviously the physician and his co-workers cannot perform miracles. They are however, trained to observe the phenomenon of sickness and should be able to add to man's knowledge in regard to control of this disorder. As with all problems the way is beset by many difficulties, one of the first of which is defining the problem before something can be done about it.

I have outlined some of the advantages and complications of considering this condition as a sickness. Naturally if it is to be so viewed, medical resources must be mobilized. Conferences such as this, yield the opportunity for comparison of working frameworks of reference and their integration.

PRESIDENT'S PAGE



The time for our national election is drawing close. I do not believe the medical profession has to be reminded that "now is the time to come to the aid of their party." Having decided which candidates and which party represent the philosophy of government and politics you stand for, **now** is the time to make your opinion known through your support, both with finances and with active work in behalf of your choice.

The public image of the doctor as a rather apathetic individual in government (which I believe is false) must be changed to that of an active worker to uphold the principles upon which this country was founded and owes its present potent position.

Perhaps one good way this could be done would be to pledge your associates and employees to vote on November 8. Then tell the public of this action with a placard in your office which might state:

All the staff in this office
have pledged to vote on November 8
Can YOU be counted on?

Enlist your local Auxiliary to inaugurate a "get-out-the-vote" plan, working as doctors' wives.

The importance of this election in the future of our medical practice and — yes, even our American way of life — cannot be over-emphasized. Study the candidates, the issues, and the political philosophies, then support those who represent what you want with money and active work — and then VOTE!

Very sincerely,

C. Rodney Stoltz, M.D.

President

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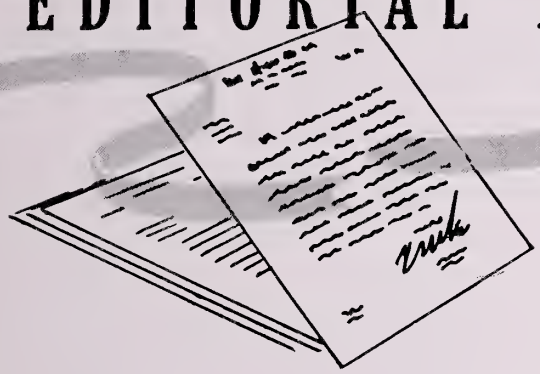
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EDITORIAL PAGE



THE PHYSICIAN POLITICIAN

Many physicians are qualifying presently for this title. To some of our colleagues this may seem degrading. On the other hand, many others are recognizing and engaging in an important activity which is justly a responsibility of the medical profession. Clear thinking and careful analysis will prove the need for such efforts, their propriety and their ultimate value to the people of our country and to the medical profession itself.

That day is gone when physicians can idly watch political campaigns come and go. Financial contribution to election campaigns is an obligation of citizenship and is commendable. In our present time, however, financial support alone is inadequate and must be accompanied by interest and action in political affairs.

Our American free enterprise system of medical care is being increasingly threatened by those who would subject it to radical changes. These could result in an interior type of care for the American people and place the medical profession under the domination and direction of persons who are only remotely connected with the practice of medicine.

Complacency, lack of interest and inactivity on the part of individual physicians serve to encourage such changes. Interest in political matters followed by action on the part of each individual physician is requisite to prevent radical changes in methods of medical care with resultant injurious effects upon the public and medical profession alike.

The AMA and other medical organizations are only as potent as the concern and activity of their individual members. The political issues before us now are of vital importance to each practicing physician as an individual. Thus it is imperative that each of us must become interested and active in the present political campaign. This is no time to fear supporting one party or one candidate as such. Rather it is a time to openly and wholeheartedly support the candidate and the party who express a philosophy of government most nearly coinciding with that of our own. No physician should be guilty of "sitting on the fence." His stand should and must be firm. His patients should know his position, and why. Each practitioner should and must take the additional time to explain his political beliefs to any interested patient. He must in essence be a campaigner for the standard bearer who most nearly shares his philosophy in the public interest and in the future of medicine.

Only after the most careful consideration

of the issues and the views and philosophy of the candidate can a physician wisely and carefully choose the candidate he wishes to support. It should be restated that this philosophy, these views, and these issues are the important consideration and other factors influencing decision of support of candidates are secondary. The issues important to us are namely (1) the future welfare of our country as a whole, (2) methods for the best possible medical care for the public, (3) protection of the valid interests of medicine in general and ourselves in particular.

With this knowledge at hand, let us stand up and be counted. Let our choice be known. Even at some degree of self-sacrifice if necessary, let us openly support the candidate of our choice. If we have done these things and one is then called a "physician politician" one can have a justifiable pride in noting a job well done.

G. E. T.

"SIXTY FIVE"

It would appear that in the present scheme of things the age of sixty five has become the preamble to the gates of paradise. It would seem that legislation in our country and in many western countries abroad, both locally and nationally, wherein forms of social security, or, similar old age? benefits exist, has fostered in man the idea that the goal to which all men strive is to the golden age of sixty five. At this time one ceases to contribute to society, except in isolated instances. This is somewhat analogous to the ancient Persian desire of serving the Gordian Knot. Even though the latter is said to have been accomplished by Alexander the Great, one reads on with some concern and must eventually conclude, that all did not end well with either the hero or those about him. That there has accrued benefits from putting our elders to pasture, one would be foolish to deny, however, that these benefits outweigh the debit side of the ledger there can be some doubt.

Present and past history lets us gaze with some insight into contribution made by people and peoples past the age of sixty five. I dare say, the English would more than have looked askance at suggestions to retire Sir Winston Churchill, or, Elizabeth the First of England. The framers and founders of the constitution of our great country needed both the ideals and actions of the young and the elderly, for if we trace the ideals that later became ideals of action we find the young Mr. Jefferson's, Franklin's, and Adam's sustaining the action into ages well past sixty five. Among the likes of philosophers we would have found Socrates early embiding tranquilizers instead of hemlock. Who among us would have had the courage to retire Einstein, or, Priestley, or, our home grown Thomas Edison. If we look to medicine, let us dare replace Doctors' Sweitzer and our own Paul Dudley White. Of our present President and of our near late Secretary of State, need we mention age.

An aged Russian, recently interviewed, was asked about the status of the elder in Russia, to which he replied, "Communism is only for the young?" One wonders if democracy is only for the young. We are eager to admit that these are times to test our nation and its resources, yet to cast away the thoughts and actions of those past sixty five is indeed casting aside one of our rich natural resources.

From our standpoint of Christian and Jewish mortality, the commandment to honor our fathers and mothers should be given some serious consideration. Age should be no limitations to honor, nor, should we be presumptuous enough to reinterpret the holy scripture by substituting a government daughter and son figure in place of our own responsibility.

In government, it has been suggested that we utilize the sagacity of past presidents; with this thought, one must surely concur. One, however, would wish to expand this statement to include all peoples in all walks of life, wherein, health, or, lack of desire is not wanting.

One could summarize these thoughts, perhaps, with these few lines:

"Retired too Soon"
Time is mist,
That hangs upon the soggy days,
For idle hand and head
That once with eager quickness moved,
But now instead is stilled
And filled with nothing—
Unwanted and unused.

—R.K. Rank, M.D.



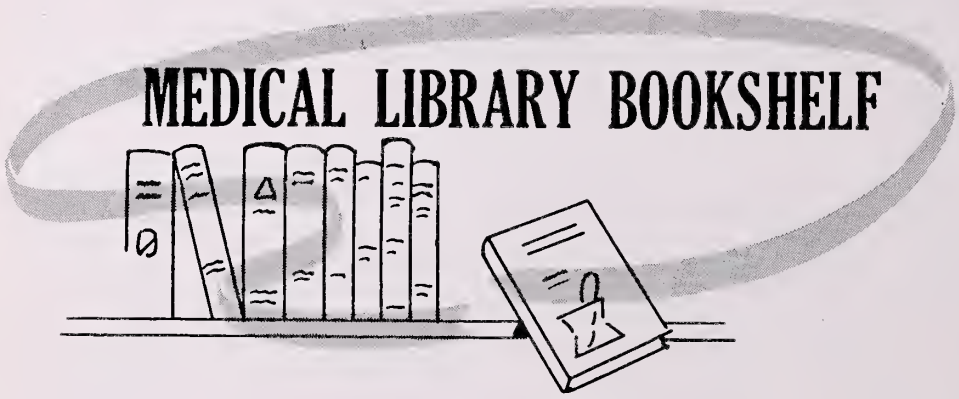
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When your patient needs plasma, you make sure he gets it. Right now, the medical schools of our nation need the plasma of your financial aid—need it badly—to maintain our present high standards in medical education.

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RECENT NEWS OF POLIO

On Sept. 1, 1960 in an interview with Dr. Albert Sabin by Dave Garroway on the television Today Show he stated that the Surgeon General, Leroy E. Burney of the Public Health Service had endorsed the Sabin, live virus vaccine and that by the spring of 1961 the pharmaceutical companies would have an adequate supply of the vaccine. Dr. Sabin also stated that it is advisable for all of those who have had the Salk shots to also have the Sabin vaccine as an added protection. Although the Salk vaccine has prevented polio it hasn't been 100 per cent effective and there have been cases of paralytic polio among those who have been vaccinated with it.

Time Magazine for Sept. 5, 1960, in the Medicine section p. 41 has a column entitled, "O. K. for Live Vaccine" which announces the endorsement by Surgeon General Burney. The article states that the Sabin vaccine viruses multiply in the digestive tract causing a harmless infection. Full protection against 3 types of polio require 3 virus strains, one for each type, with spaced single type doses either in capsules or in a teaspoonful of sweetish cherry colored liquid. The Soviets built in into a hard candy "sourball" with a different color for each virus type.

The announcement of the endorsement of the Sabin vaccine came as a surprise to the Lederle officials who have invested 13 million dollars in developing the Cox product. This product had been put into a one swallow trivalent vaccine that 413,316 residents of Florida's Dade County took early this year with no cases of paralytic polio reported among the vaccinated except 7 who were already incubating when the vaccine was taken.

The Pharmaceutical Companies now rushing into manufacturing of the Sabin vaccine are Pennsylvania's Wyeth Laboratories, Indianapolis, Pelman and Moore, Lederle, and Pfizer who will manufacture it in England. Field trials of the live polio vaccine were carried out in Russia where some 82 million were given the attenuated polio vaccine.

An account of the success of the use of the Sabin vaccine in Russia is found in the June 1960 supplement to the American Journal of Public Health, "Public Health in One World" by Dr. Smorodentsev of the Department of Virology, Institute of Experimental Medicine, Leningrad, USSR. In this issue his paper entitled "New live vaccines against virus diseases" was read at the American Public Health Association session in Atlantic City in Oct. 1959. According to the author the Salk type (killed virus vaccine) is significant for the reduction of the number of paralytic forms in only 20-30 per cent of triple vaccinated children and had no effect on the cir-

culation of the virus in the human community and so, left unsolved the problem of poliomyeletis eradication.

In cooperation with Dr. Sabin, the safety and effectiveness of his live attenuated polio virus was studied. Susceptible children received the vaccine by direct feeding in the form of monovalent vaccine type 1, 2, and 3, or monovalent vaccine of type 1 and, after one month divaccine of types 2 and 3 simultaneously. The administration of live vaccine calls forth the intensive multiplication of attenuated virus for a period of from 30 to 45 days and its subsequent gradual elimination from the intestinal tract. One of the most important features of the live polio-vaccine administration is the spreading of the vaccine virus from vaccinated children to people living in close contact with them. The intensity of the spread of the virus depends on the age of the children and especially on the sanitary conditions in which they live. Out of 12 million children no cases of polio clearly attributable to the vaccine was found or any evidence that multiduplication of the vaccine strains in susceptible persons or in numerous contacts was associated with any distinct illness referable to the involvement of the nervous system or to mild nonparalytic symptoms such as pharyngeal, alimentary or allergic disturbances.

An article, important because it presents some of the problems associated with the use of live oral vaccines is found in the **American Journal of Public Health** v. 50, p. 1013, 1960. This is by Joseph L. Melnick, chairman of the Dept. of Virology and Epidemiology, Baylor University College of Medicine, and is entitled "Problems Associated With the Use of Live Poliovirus Vaccine." The data was an attempt to answer the question of the genetic stability of vaccine viruses being tried in many parts of the world. A significant number of vaccinated children excrete viral progency which show an increase in monkey spinal neurovirulence over that in the vaccine. Intramuscular data indicates that viruses recovered from vaccinated children and which show changes in certain of their genetic character show concomitant increases in their neurovirulence for the monkey, even when inoculated by a peripheral route which deposits the virus far from the lesion in the central nervous system. Questions to be answered are: Do these changes have any significance as the regards to the use of these vaccines in man? This is of greater importance to the contacts than to the vaccines. Will the altered strains secreted by the vaccines undergo progressive changes after several passages in the community and eventually reach a degree of virulence comparable to that of wild polioviruses circulating in nature?

In the Soviet society it appears possible to minimize the contact problem by saturating an entire community with vaccine. In our society with personal relationships between patient and physician in private practice, mass feeding is less likely to be adopted. Mass immunization is not always an inevitable response. A certain and variable part of the community may carry other enteroviruses which interfere with takes from the vaccine virus. When the enterovirus infection ceases such individuals are apt to pick up passage virus from a vaccinated person in the community. For optimal safety it is essential that the vaccine virus used does not revert toward increased neurovirulence in the course of human passage.

This article has a list of up to date references on live virus vaccines.

Mrs. Esther Howard
Medical Librarian

ARIZONA SETS CANCER SEMINAR

The Arizona Division of the American Cancer Society has set up its 9th Annual Cancer Seminar, scheduled for January 12, 13, and 14, 1961 at the Tidelands Motor Inn in Tucson. According to information received from the Division, the meeting is to be devoted to the various aspects of chemotherapy, virology, endocrinology, environmental factors, etc. as they relate to tumor formation or the therapy for tumors.

Featured on the program will be Arthur W. Ham, M.D., Head of the Department of Medical Biophysics, University of Toronto; Roy Hertz, M.D., Chief, Endrocrinology Branch, National Institutes of Health; Henry S. Kaplan, M.D., Executive, Department of Radiology, Stanford School of Medicine; and Chester M. Southam, M.D., Sloan-Kettering Institute for Cancer Research.

Further information on the program can be obtained from Darwin W. Neubauer, M.D., 37 East Jackson Street, Tucson, Arizona.

GENERAL POLICIES SOUTH DAKOTA STATE MEDICAL ASSOCIATION

(Editors Note: The following is a review of the South Dakota State Medical Association's general policies over the past ten years as gleaned from the official minutes. The review is not complete nor is it intended to be. It does constitute a guide for members.)

Public Health

Favors creation of a State Health Museum on State Fair grounds (1959)

Favors polio vaccine programs at the local level (1959)

Supports the Poison Registry Center at the University of South Dakota (1958)

Opposes unsupervised blood testing for diabetes by health department (1958)

Supports laboratory training programs at the University Medical School (1957)

Endorses research laboratory at University Medical School (1955)

Endorses purposes and activities of the South Dakota Joint Council on Improvement of Care of the Patient (1955)

Endorses and supports the State National Science Fairs (1955)

Endorses creation of District Health Units provided qualified health officers are available to man them (1954)

Endorses building of homes for aged with Hill-Burton funds utilizing private resources wherever possible.

Mental Health

Incidental support for the interstate Compact on Mental Health (1959)

No action on a mill levy for mental health centers (1959)

Favors State appropriation for mental health centers (1959)

Favors improving of Title 30 concerning commitment laws (1959) (1954)

Endorses creation of a State mental health authority (1954)

Osteopathy

Endorses full licensure for doctors of Osteopathy through the Board of Medical Examiners.

Taxation — Legislation

No position on exemption of hospitals from payment of sales tax (1959)

Opposes state treasury scholarship grants for nurses except at graduate level (1957)

Endorses Federal legislation to provide tax-deduction retirement funds for self-employed (1959)

Medical Care Programs

Favors unlimited Workmen's Compensation benefits for hospital and medical care (1959)

Supports idea of a "medical examiners" system in place of present coroner system in South Dakota (1958)

Supports "Medicare" program if based on original concept (1958)

Supports health insurance for aged on a voluntary basis (1958)

Supports statewide program of medical and hospital care for recipients of categorical assistance — OAA, ADC, AB, AD (1957)

Favors administrative operation of Federal or State medical care plans through Association executive office (1946, 1956, 1959)

Endorses liaison committees with Bar Association, Pharmaceutical Association, and News Media.

Supports Blue Shield as an arm of the Medical Association (1955-1956)

Endorses creation of fee schedule for Workmen's Compensation cases (1955)

Endorses simplified uniform report blanks for health insurance (1954)

Veterans Medical Care

Endorses AMA stand on medical care in V.A. hospitals for non-service connected veterans (1954)

Safety

Supports strong driver qualification laws (1959)

Supports "implied consent" laws for drivers (1959)

Supports close liaison with national farm organizations (1958)

Endorses physician participation in Civil Defense activities (1955)

Licensure of paramedical group and Enforcement

Supports Basic Science investigations of illegal practitioners (1959 and previous years)

Opposes licensure of psychologists (1959)

Endorses certification of psychologists by their national organization (1959)

Opposes licensure of masseurs (1959)

Supports campaign to reduce food faddism amongst public (1959)

Endorses licensure of physical therapists (1955)

Ethics

Names as unethical any advertising or pro-

fessional card that indicates certain specific services being rendered e.g. "Glasses Fitted" (1955-1960)

Endorses AMA's simplified code of ethics (1956)

Opposed the AMA's code of ethics relating to physician ownership of pharmacies (1955)

N. WELLS STEWART, M.D.
1899—1960

Dr. N. Wells Stewart, chief surgeon for the Homestake Mining Company died unexpectedly August 10 while water skiing at Pactola Dam.

Death was attributed to a heart attack.

Dr. Stewart was first hired by the Homestake Mining Company January 12, 1931 as a hospital physician. He was promoted to the post of assistant chief surgeon July 1, 1949 and became chief surgeon Oct. 1, 1951.

Born August 25, 1899 at Mankato, Minn., Dr. Stewart was married to the former Lucille A. Keepers, June 8, 1931.

He was a graduate of the University of Minnesota Medical School and was engaged in private practice before joining the Homestake staff.

A World War I veteran, Dr. Stewart was active in civic affairs, serving as food chairman for the Black Hills Rod and Gun Club smoker for many years, as chairman of the Civil Defense Emergency Hospital Unit stationed at Lead, and was a past master of the Golden Star Lodge No. 9, AF & AM. An avid outdoorsman, Dr. Stewart was an enthusiastic hunter, horseman and skier. He was a member of the Presbyterian Church, Lead; the Black Hills District Medical Society, South Dakota Medical Society, American Medical Association, Industrial Health Association, Rocky Mountain Industrial Health Association, American Hospital Association, and the Homestake Veteran's Association.

Survivors in addition to his widow include two children, Mrs. W. A. Royce Jr., (Marcia) of Ripon, Wisc. and John of Lead, a student at the University of Minnesota; two grandchildren; his mother, Mrs. Lulu Stewart and a brother James Stewart both of Mankato.

MEDICAL ECONOMICS COMMITTEE MEETING

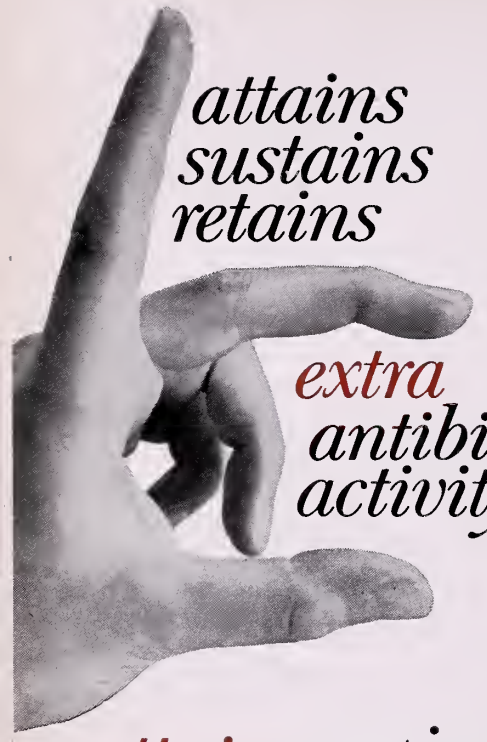
South Dakota State Medical Association
August 17, 1960
711 North Lake Avenue
Sioux Falls, South Dakota

The meeting was called to order at 2:30 P.M. by chairman Magni Davidson, M.D. Present were Drs. Davidson and Abner Willen, Mr. Bob Bowling, Mr. J. D. McGreevy, and Mr. John C. Foster.

Mr. Foster talked briefly on the Mutual of Omaha proposal which has been referred to the Committee by the Council. He explained the operation of the Harold Diers Company in respect to numbers of members covered by their plan. Dr. Davidson moved that the Committee recommend to the Council that the loss-of-time program be maintained with the Harold Diers Company. Dr. Willen seconded the motion and it was carried. The Committee also expressed the opinion that a letter should be sent to the Harold Diers Company asking that an earnest endeavor be made to increase the number of physicians enrolled in their plan and that the physicians who have been rejected be given another chance, through an open enrollment, on the basis of their increased number of participants; or that they waive underwriting for those who have been turned down for physical reasons after they have secured additional enrollees.

Mr. Foster then spoke briefly on the proposed plan for group overhead protection offered by Continental Casualty Company. Mr. Bowling and Mr. McGreevy explained the plan in detail and answered numerous questions from the Committee. A minimum of 75 participants would be required before the Company would write the plan.

Dr. Willen moved that the Executive office survey the members of the Association on behalf of this proposed plan, and that the results be presented to the Committee by mail before the presentation is made to the Council at their September meeting. Dr. Davidson seconded the motion and it was carried. The meeting adjourned at 4:30 P.M.



attains
sustains
retains

extra
antibiotic
activity

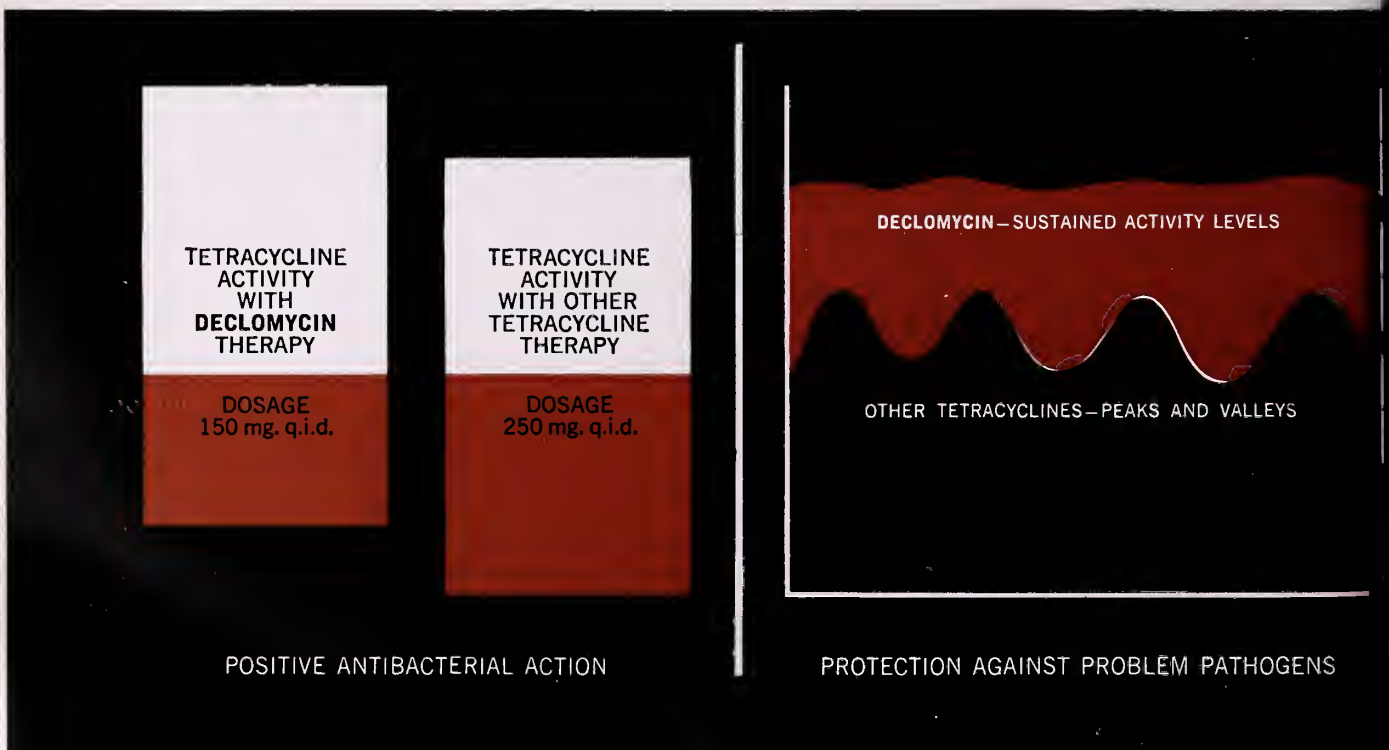
DEC

attains activity levels promptly

DECLOMYCIN Demethylchlortetracycline attains—usually within two hours—blood levels more than adequate to suppress susceptible pathogens—on daily dosages substantially lower than those required to elicit antibiotic activity of comparable intensity with other tetracyclines. The average, effective, adult daily dose of other tetracyclines is 1 Gm. With DECLOMYCIN, it is only 600 mg.

sustains activity levels evenly

DECLOMYCIN Demethylchlortetracycline sustain through the entire therapeutic course, the high acti ity levels needed to control the primary infection ar to check secondary infection at the original—or another—site. This combined action is usually su tained without the pronounced hour-to-hour, dose-t dose, peak-and-valley fluctuations which chara terize other tetracyclines.

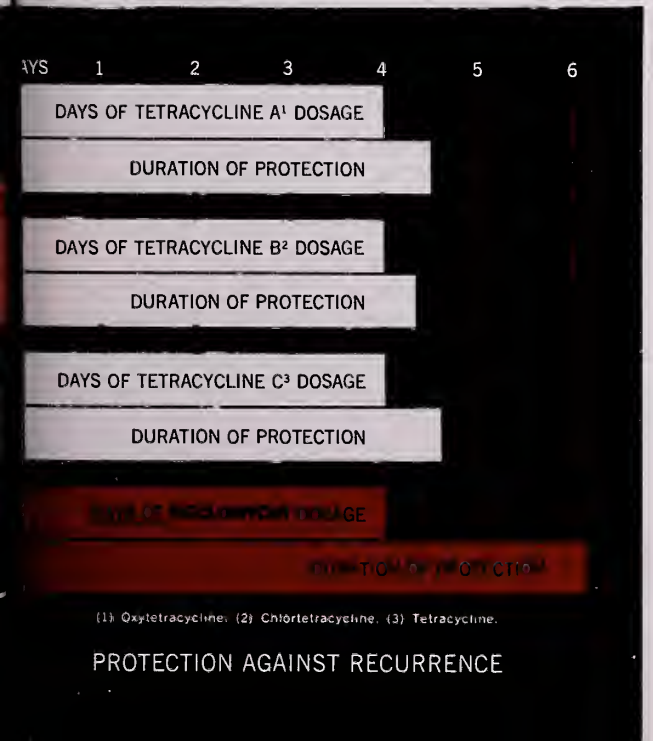


LOMYCIN®

DEMETHYLCHLORTETRACYCLINE LEDERLE

retains activity levels 24-48 hrs.

ECLOMYCIN Demethylchlortetracycline retains activity levels up to 48 hours after the last dose is given. At least a full, extra day of positive action may thus be confidently expected. The average, daily adult dosage for the average infection—1 capsule q.i.d.—is the same as with other tetracyclines...but **total** dosage is lower and duration of action is longer.



CAPSULES, 150 mg., bottles of 16 and 100. **Dosage:** Average infections—1 capsule four times daily. Severe infections—Initial dose of 2 capsules, then 1 capsule every six hours.

PEDIATRIC DROPS, 60 mg./cc. in 10 cc. bottle with calibrated, plastic dropper. **Dosage:** 1 to 2 drops (3 to 6 mg.) per pound body weight per day—divided into 4 doses.

SYRUP, 75 mg./5 cc. teaspoonful (cherry-flavored), bottles of 2 and 16 fl. oz. **Dosage:** 3 to 6 mg. per pound body weight per day—divided into 4 doses.

PRECAUTIONS—As with other antibiotics, DECLOMYCIN may occasionally give rise to glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis or dermatitis. A photodynamic reaction to sunlight has been observed in a few patients on DECLOMYCIN. Although reversible by discontinuing therapy, patients should avoid exposure to intense sunlight. If adverse reaction or idiosyncrasy occurs, discontinue medication.

Overgrowth of nonsusceptible organisms is a possibility with DECLOMYCIN, as with other antibiotics. The patient should be kept under constant observation.

Lederle

LEDERLE LABORATORIES
A Division of
AMERICAN CYANAMID COMPANY
Pearl River, New York

COMMITTEE ON LEGISLATION
SOUTH DAKOTA STATE
MEDICAL ASSOCIATION
MARVIN HUGHITT HOTEL, HURON S. D.
SEPTEMBER 10, 1960

Meeting was called to order by Chr. H. Russell Brown, M.D. Present at the meeting were Drs. Brown, Tank, Hubner, Swanson, Mrs. Wold, John C. Foster, and Phyllis Sundstrom. Absent: Drs. Lewis and Ruud. Guests: Drs. J. P. Steele, Tidd, Morrissey, Peiper, and Lampert.

Dr. Swanson moved that the legislature be requested to increase fees for licensure by examination and reciprocity. Seconded by Dr. Hubner. Carried. Dr. Hubner moved that the fees be $40.00 for examination and $90.00 for reciprocity. Seconded by Dr. Swanson and carried.

Dr. Swanson moved that the matter of Hospital Practice of Medicine as introduced by the Board of Medical Examiners be brought to the attention of the Council for their consideration with the recommendation that the Association obtain advice as to the limitations of present law. It also recommended that such legal determination be made as to how local societies might govern such cases. Seconded by Dr. Hubner. Carried.

Dr. Swanson moved that the matter of Amended Death Certificates as approved by the Yankton District Medical Society be reported to the Council with the advantages and disadvantages, and that this committee recommend to the Council that no action be taken at this time. Seconded by Dr. Tank. Carried.

Dr. Tank moved that the Legislative Committee refer the resolution presented by the Black Hills District Medical Society on the discontinuance of Pre-Marital Blood Testing to the Council without recommendations. Seconded by Dr. Swanson. Carried.

Dr. Tank moved that the Legislative Committee recommend to the Council continued support in principle of the Implied Consent Law. Seconded by Dr. Hubner. Carried.

The Committee adopted a resolution to repeat the recommendation made in 1958 on the Coroner's Law which is as follows: "It was the feeling of the Committee that the Coroner's Bill previously introduced met with severe opposition because of its complex nature and the same would happen if introduced again. The Association should support any bill which will improve the present Coroner's Law, and cooperate with the Judicial Council of the Bar Association in promulgating such legislation."

The Committee adopted a resolution to repeat the recommendation made in 1958 on the Indigent Care Program, which is as follows: "The Association recommends support for an appropriation to implement the enabling legislation which was passed at the legislative session two years ago."

The Committee felt that lack of information regarding proposals by the Mental Health Committee made it impossible for the Committee to recommend any action at this time. Second by Dr. Hubner. Carried.

Dr. Tank moved that the Committee recommend to the Council that the Association's office be authorized to print up educational material on socialism and that this information be sent to every doctor in the State. Seconded by Dr. Hubner. Carried.

The meeting adjourned on motion at 6:25 P.M.

ALEXANDER STEPHANS, M.D.
1893—1960

Dr. Alexander Stephans, a native of Hungary who had practiced medicine in Hartford the past year and a half, died August 14 at a Sioux Falls Hospital where he had been a patient 10 days with a heart ailment, he was 67.

Funeral services were held in St. George's Catholic Church in Hartford and buriel was made in St. Mary's Catholic Cemetery at Salem.

Dr. Stephens was born in Hugary, March 28, 1893. He specialized in pediatrics in his native country before coming to Sioux Falls to work at McKennan Hospital in 1951. He worked at McKennan Hospital and later at hospitals at Mitchell, Aberdeen and Webster as an anesthetist. He then practiced medicine at Selby, Bryant and Corsica before coming to Hartford.

His survivors include the widow; one son, Emery Pogany, Rapid City, and a sister in Hungary.

THE MONTH IN WASHINGTON

The federal government is offering states liberal matching funds to provide health care for needy and near-needy persons 65 years of age and older.

The program, which Congress approved in the bob-tailed post-convention session, is supported by the American Medical Association and allied health groups.

Congressional approval of the federal-state program marked a victory for the medical profession and a defeat for Democratic Presidential Nominee John F. Kennedy, the AFL-SIO and other advocates of the Social Security approach to the problem.

In a key vote on the issue, the Senate rejected by a 51-44 vote a Kennedy proposal that would have provided hospitalization and medical care for the aged under the Social Security system. The Kennedy plan would have required an increase in payroll taxes.

Republicans and Southern Democrats joined in the Senate to defeat the Social Security approach which was opposed vigorously by the medical profession.

This is your

MEDICAL ASSOCIATION

NEWS • NOTES • • • BIRTHS • • • CHANGES • NEWS

Pop's Proverbs

Quakers don't fight back, but they don't get many black eyes either.

PREXY VISITS HIS OWN DISTRICT

Association president, C. Rodney Stoltz, M.D., Watertown, made his official visit to the Watertown District on September 6th.

Thirty-five doctors and wives met at the Country Club to hear Dr. Stoltz discuss the future of the Medical Association.

During the business session, the society instructed its delegates to support extension of the "Poulsen-type" coverage to the general public.

GP COURSES SET ON CHEST DISEASES

Two postgraduate courses on diseases of the chest have been announced by Dr. J. Winthrop Peabody, Sr., Washington, D. C., Chairman of the Council on Postgraduate Medical Education of the American College of Chest Physicians.

The first of these, the 15th annual course, CLINICAL CARDIOPULMONARY PHYSIOLOGY, has been arranged under the co-chairmanship of Dr. Albert H. Andrews, Associate Clinical Professor of Bronchoesophagology, University of Illinois College of Medicine, and Dr. Edwin R. Levine, Assistant Professor of Clinical Medicine, Chicago Medical School. This course will be held at the Sheraton Towers Hotel, Chicago, October 24-28, 1960.

The second, the 12th annual course, RECENT ADVANCES IN THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE HEART AND LUNGS, was arranged under the co-chairmanship of Dr. Edgar Mayer, Clinical Professor of Medicine, New York University Postgraduate Medical Center; Dr. Alfred S. Dooneief, Lecturer in Medicine, Columbia University College of Physicians and Surgeons; and Dr. Emil A. Naclerio, Chief, Thoracic Surgical Services, Harlem and Columbus Hospitals, New York City. This course will take place at the Park Sheraton Hotel, New York City, November 14-18, 1960.

Tuition for each five-day course will be $100 including round table luncheon discussions.

SIOUX FALLS HEARS DR. RALPH M. STUCK

The Sioux Falls District Medical Society met September 6th in Sioux Falls. Ralph M. Stuck, M.D. of Denver, Colorado, spoke on "Cervical Discs."

Dr. C. Stanley Larson was appointed local chairman for the 1961 annual meeting of the South Dakota State Medical Association. Dr. Vincent Cutshall was named chairman of the Diabetes Committee with Dr. E. W. Sanderson assisting.

The program committee for the Sioux Valley Medical Society Meeting will be Drs. V. V. Volin, Chr., S. M. Brzica, R. R. Giebink, R. Nelson, R. Olson, E. W. Sanderson and E. T. Lietzke. The meeting will be held February 23 and 24 in Sioux Falls.

Dr. Sidney Becker was named chairman of the Hospital Clinic Session for the Sioux Valley Medical Society meeting. Assisting Dr. Becker will be Drs. L. M. King, R. Leander, C. J. Mongeon, J. H. Shaeffer and R. S. Hosen.

The Sioux Falls District voted to instruct their delegates to vote for extending the "Paulson Type" contract to the general public.

Dr. Amos Michael for the past eight years a member of the U. S. D. Medical School Staff, has been granted a years leave of absence to become visiting professor of pathology at the Basic Medical Science Institute at Karachi, Pakistan.

* * *

Dr. David Studenberg has entered the solo practice of medicine at Gregory, S. Dak.



(Photo — Reineke Studio)

Seated at their place of honor, Dr. and Mrs. Totten listen intently to Morris Hersrud, the master of ceremonies as he reads the inscription on one of the many plaques of achievements. The Doctor received on "Doc Totten Day." The theme carried out during the program was "This Is Your Life," and moved along much in the same way as the famous television show. Others included in the photo are (l.-r.) — Dr. C. Rodney Stoltz, Mrs. Kirchoff, Johnny Norris, grandson of Dr. and Mrs. Totten; Rev. and Mrs. Lee James and Mayor George G. Papke.



(Photo — Reineke Studio)

South Dakota State Medical Association president, Dr. C. Rodney Stoltz, Watertown, pins the association's Fifty Year gold pin on Dr. F. C. Totten, Lemmon, at ceremonies in the city on August 21st. Seated to the left of Dr. Totten is Mrs. Totten.

Dr. Bruce Henderson, a graduate of the University of Edenburgh, has become a member of the Watson Clinic.

NEWS NOTES

Dr. Arthur Semones, for the past five years, assistant chief surgeon at the Homestake Hospital in Lead, has been named chief surgeon at that institution. He replaces **Dr. N. Wells Stewart** who died recently of a heart attack.

* * *

Paul V. McCarthy, M.D., Aberdeen, has been named 1960 chairman for the St. Louis University Alumni Fund Council for the State of South Dakota.

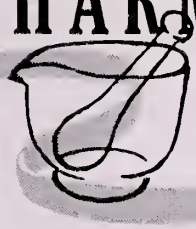
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Drs. Arnold L. Pritschow and **Joseph M. Spencer** have been named to the staff of the University of South Dakota Medical School.

* * *

Dr. Robert Stiehl, a native of Hay Springs, Nebraska, is now associated with **Dr. E. P. Sweet** at Burke, S. Dak.

PHARMACEUTICAL SECTION



HAROLD S. BAILEY, PH.D.
EDITOR
Division of Pharmacy
South Dakota State College
Brookings, South Dakota



THE O-T-C PRODUCTS*

by
Robert E. Abrams**
Philadelphia, Pennsylvania

The August 5, 1957 edition of Food, Drug and Cosmetic Reports approached the problem of Over-The-Counter (O-T-C) pharamaceuticals as follows:

"O-T-C PHARMACEUTICALS, whose annual volume may soon be pushing the half-billion dollar plus sales of the nationally advertised proprietaries, provide a promising new market potential for development by all segments of the trade — pharmaceutical manufacturers, drug wholesalers, chains, and independent retailers. Thus far, the booming over-the-counter (o-t-c) pharmaceutical volume has grown "like topsy," and represents a sales area that until now has been largely unexplored, unexploited, un-attended, and even un-noticed by those closest to it.

The proper exploitation of the o-t-c pharmaceutical market area awaits the development of new promotional and merchandising techniques that will expose the unadvertised products to consumer impulse buying without incurring the anger of the mass of MD's whose recommendation initiates the word-of-mouth promotion that snowballs into significant consumer demand. The o-t-c pharmaceuticals cannot be promoted or merchandised at any level of the trade — manufacturing, wholesaling, or retailing — by using the same techniques that are applied to building sales volumes on proprietaries, cosmetics or sundries. To do so would risk the conversion of o-t-c pharmaceuticals into proprietaries — or at least would put them into direct competition with proprietaries. Either development involves a danger of killing the goose that lays golden eggs.

"Retail Druggists — both independent and chain — have strong cash register motivations for contributing their strong support to the fullest possible development of the o-t-c pharmaceutical market. In the first place, these products frequently carry higher margins. In addition, with the outcome of the restrictive sales battle still in doubt, the o-t-c pharmaceuticals represent an important vol-

*A report based on a survey of physicians attitudes prepared and conducted by the American College of Apothecaries.
**Secretary, American College of Apothecaries.

ume on a class of drugs that is still almost entirely within the drug store. The interest of drug wholesalers in the o-t-c pharmaceutical development, of course, is identified with the increased sales potential it offers for their retail customers."

Forbes magazine in their Twelfth Annual Report on American Industry, January 1, 1960, indicated the following:

"For the past few years the stock market has held pharmaceutical manufacturers in high regard partly because of their willingness to make substantial investments in the field of research. The feeling seemed to be that spending a large amount of funds for research was in itself almost an automatic guarantee of future profitability. During the past year the realization suddenly dawned that expenditures alone might not be sufficient to produce new wonder drugs or to enable a firm to capitalize on such new products as it might introduce.

"The net effect of this re-evaluation found the stocks of proprietary manufacturers winning new favor among investors. Part of the reason for the switch is, of course, to be found in the comparative records of such firms during the past year. The figures show that the listed group of proprietary firms achieved a higher net return on equality than did the pharmaceutical companies for the 1959 fiscal year."

Will O-T-C Promotion Encourage Self-medication?

These facts have more or less wet the appetite of some of our "ethical" manufacturers, and we have witnessed several different overtures into promotions, which would attempt to stimulate even higher markets in O-T-C's and to encroach somewhat on the market of proprietary items.

Unquestionably the O-T-C products and their future status is a problem which must be faced. And yet, since early 1957 when interest began to be exhibited in these drugs as a group, very little has been done to explore the physicians' attitudes with respect to these products and also to determine what effect promotion by the pharmaceutical manufacturer and the pharmacist might have on his prescribing habits. In an industry so replete with market studies, this certainly seems an anethma for actually this must be one of the basic considerations that would guide future activities.

The pharmacist also has a vital interest in learning the physician's feelings with respect to these products since in many cases he is being asked, cajoled, solicited or promoted by the manufacturer to display and promote these O-T-C products. From his background of pharmacology he recognizes that in many cases the products categorized as O-T-C's represent far superior therapeutic agents than many of those extensively promoted proprietary products and that the claims made for the O-T-C's are in many cases more reasonable, representing a somewhat more ethical approach. This statement, however, is made with reservations and the future status or promotion may depend on the moral and economic conscience of the manufacturer. At one time it was felt that the promotion of O-T-C's had the advantage that they were Pharmacy only products. However, these items became more popular and, due to failure to obtain or enforce proper protective laws for the public, they are finding their way into every outlet. This we believe represents a serious threat to public health as well as to the reputation of the product and the manufacturer.

It must also be remembered that these O-T-C's are in most cases former prescription products. They possess marked therapeutic properties as well as potentiality for harm. Close control and surveillance of their sale is not only needed, but must be considered as a primary responsibility of the Pharmacist in exercising one of his important functions, namely that of a purchasing agent for his community. Can not the promotion of O-T-C's by the industry or by the pharmacist be construed as an encouragement to self-medication? A practice which can be extremely harmful to the public.

Advertising agencies and promotional experts have attempted to convince both the manufacturers and pharmacists that they should actively promote these products. Statements such as the following which appeared in the December issue of Medical Marketing, and attributed to Dean Burdick of the Burdick and Becker advertising agency are typical of the consideration and tenor which now envelopes the O-T-C products. "Mr. Burdick indicates that we have witnessed a tremendous change in the avail-

ability and promotion of new pharmaceuticals and states that the evolution, then requires a revolution and the revolution must start with a re-evaluation of the basic nature of the pharmaceutical business from the manufacturers viewpoint. Mr. Burdick submits that the industry is in "two kinds of business, totally different, but with one common denominator, health . . . ." He indicates "The importance and value of establishing a secondary market directly with the consumer for over-the-counter products is now well recognized. This evolution of the place of O-T-C products in our marketing spectrum has reached a point which now demands accelerated aggressive promotion. By so doing, we will not only provide a profitable new potential but also tend, perhaps, to reduce the weight of the physician's promotional burden."

Physician Attitudes Toward O-T-C's Important

We are however not at all certain that an extensive O-T-C promotional effort by either pharmacist or manufacturer is desirable or advisable. Actually, many factors must be considered and most important from the pharmacist's point of view, is the attitude of the physician toward these products. What effect do displays of these products have on physicians and also what are their attitudes on these products and on proprietary products? These questions are ones which never seem to have been explored. It is certain that there is no single answer, but without facts on which to base a decision, how can an intelligent decision be made?

Therefore, the American College of Apothecaries through the co-operation of its Fellows decided to survey physician attitudes with respect to these products. Attached to this report is the survey form which was recommended to be used and a letter which the Fellows of the College were urged to use as background, with the additional urging that as many of the surveys as possible be done by personal contact rather than through the mail. The response was tremendous and this survey is based on reports from about 1,000 physicians in at least 35 states. Many more reports were received too late to be included, but it is our opinion that the size of the sample and its distribution make the results valid. The following is a compilation of these survey reports with comments which are believed to be pertinent.

Question I

Do you have any objection if the pharmacist maintains on his counters displays of:

Proprietary Remedies?

Yes 31% No 69%

O-T-C Remedies?

Yes 54% No 46%

Over two-thirds of the physicians seem to have accepted the fact that proprietary remedies are established on the market and do not appear to object to the display of these items. However, more than half do object to display of O-T-C remedies and if this objection is a strong one, the situation of possibly offending 50% of the physicians by displaying these items must be faced by the pharmacist.

Question II

What should your pharmacist do if a patron comes in and asks for a cough remedy?

14% said "Refuse to sell it."

77% said "Sell him a product which you feel is a good one and recommend that he see a doctor if no relief is immediately forthcoming."

9% said "Allow him to buy any product which is nationally advertised."

In spite of the physician's inherent opposition to self-medication, an overwhelming majority recognize that some self-medication is inevitable. However, only 9% were willing to allow the public to make their own free selection of medication and indicated a desire for the pharmacist to exercise control over the purchase and to indicate to the purchaser the need to seek medical treatment if no relief is rapidly forthcoming.

Question III

What are your feelings with respect to displays by the pharmacists of:

Proprietary Remedies?

No objection 62% Objection 38%

O-T-C Remedies?

No objection 35% Objection 65%

This question was inserted to serve as a check against No. I and to give the physician an opportunity to express himself rather than check off a yes or no answer. With respect to the proprietary remedies the number objecting were fairly close; but when this opportunity for some thought to the problem was provided, there were a few who felt dif-

ferently and changed their minds and were thus grouped with the objectors.

In the case of the O-T-C products, this tendency was even stronger with 54% objecting in Question I to 65% objecting in Question III.

Question IV

Would the fact that a particular drug can be sold over-the-counter, such as Triaminic-Coricidin-Orthoxine etc., affect your prescribing habits with respect to the product?

Yes 67%
No 33%

Two-thirds of the physicians replying to the survey indicated that the fact that a product was free to be sold over-the-counter and was more or less promoted that way, would strongly affect their prescribing habits for that product. This is an attitude which the pharmaceutical manufacturer must give very serious consideration to in contemplating petitioning the F.D.A. for changing the status of a product from legend to O-T-C.

Question V

What are your feelings with respects to **grocery stores—super markets,** etc., handling:

Proprietary Drugs?
13% Acceptable
87% Unacceptable
O-T-C Products?
2% Acceptable
98% Unacceptable

The conclusion might be drawn from the replies to this question that pharmacists have greatly underestimated the feelings that physicians have for the protection and service that the pharmacists provide in the sale of drug products. Only 13% see nothing wrong in having proprietary drugs available for generalized distribution, while only 2% would condone this method for O-T-C products. These opinions make it quite evident that both pharmacist and manufacturer alike should make every effort, which must certainly include legislation, to see to it that all O-T-C products and any potentially harmful proprietary product should be restricted to sale only in pharmacies and by pharmacists.

Question VII

This question requested the physician to indicate "any generalized statements or comments in the area of self-medication."

The replies to this question did not lend themselves to any distinct classification of comments but expressed the following general climates which may be of interest:

. . . . Self-medication is bad but has always been with us and shall remain; and it is impossible to protect the public completely, but some effort should be made.

. . . . Self-medication may mask symptoms of severe conditions, deter diagnosis and is generally harmful, usually leading to increased expenses for the patient over the long run.

. . . . Self-medication is acceptable for minor ailments, provided the patient is cautioned by the pharmacist who should personally supervise the sale and provided the patient is instructed to visit the physician if no improvement is noticed within a few days.

. . . . Advertising and claims for products for self-medication should receive stronger control and regulation.

Selected Comments

The following are selected verbatum comments that were received to Question VII:

. . . . It would be totally wrong to deprive the public the relief afforded by simple safe medication, but it is the responsibility of the pharmacist to see that this is confined to safe drugs dispensed without extravagant claims or undue cost.

. . . . Ideally there should be top level agreement by the A.Ph.A. and the A.M.A. with drug manufacturers excluded as to the safe and desirable O.T.C. drugs with Federal enforcement. No advertising.

. . . . If a pharmacist is intellectually honest, he will either do Rx work only and be happy or else run a supermarket drug store and be willing to compete with any feather merchant.

. . . . Pharmacists who help patients self-medicate have a responsibility to place a short time interval as a test of the medication's efficacy and to advise competent medical advice.

. . . . If the drug companies will quit worrying about how to worm out another schekel, they will do it all right. Let's keep the learning among the learned and not let everyone try to play doctor.

. . . . Items should carry a label that any

drug should be under the supervision of a doctor.

. . . . Do all you can to discourage self-medication and to discourage magazine articles.

. . . . The promotion and sale of O-T-C drugs by "ethical" companies is a serious mistake.

. . . . We should moderately boycott companies supposed to be good that use us to promote their products.

. . . . A suggestion in reference to O-T-C sales that are allowed to get out of the pharmacy. A group from the local pharmaceutical association should meet with a group of the medical society and formulate a plan for a NEWS LETTER. This would be from the pharmacist to the physician calling attention to the offenders in selling O-T-C items elsewhere and by so noting it to the physician he in turn will refuse to see that particular Medical Service Representative until situation is cleared.

. . . . Over advertising encourages self-medication. Some pharmacists do also. The problem lies primarily with manufacturer's advertising techniques and claims which should be strictly supervised by Pure Food & Drug Administration and by Communications Commission at national and lower levels.

. . . . In my more than 50 years of practice in three states and in the military establishment, I have never encountered a pharmacist that I did not learn to respect, even admire.

. . . . Just as doctors avoid prescribing drugs made by companies which have "unethical" subsidiaries, they avoid using pharmacies which they learn are practicing medicine.

. . . . All drugs are potentially dangerous and efficacious drugs should be kept under direct supervision of pharmacist and physician. This would be ideal. Since this is impossible, especially in the supermarket type of drug store, whether O-T-C drugs are sold at groceries or elsewhere seems immaterial at the present time.

. . . . Believe there should be stricter regulation of advertising claims by Government; clearer and more prominent statements of side effects and contra-indications on non-prescription items and prompt withdrawal of approval of over-the-counter sales by the appropriate agency when serious side effects are reported.

. . . . Self-medication is as old as medicine and cannot be legislated out at existence. But the more toxic drugs can be made or kept prescription items. Both medical and pharmaceutical professions can help educate the public.

. . . . Self-service drug stores should not have drugs where customers can reach them.

. . . . Sometimes the patients have better judgment than the doctors or the pharmacists.

. . . . Doctors	don't dispense.
Pharmacists	don't prescribe.
Manufacturers	don't confuse patients by false or misleading "cure" advertising.
Patients	pray.

Conclusion

In conducting this survey the American College of Apothecaries feels that it has contributed greatly toward understanding a most complex situation. It has provided all pharmacists, not only those of the College, with an insight into the thinking of the physician and should serve a most useful purpose in providing a guide to pharmacists with respect to future actions.



PREMENSTRUAL TENSION — A PHENOMENON OF SOCIAL IMPORTANCE*

For centuries, women have stoically accepted one of their most common disorders—premenstrual tension — as part of their heritage. The distressing build-up of physical and psychological symptoms that occurred every month just before the menstrual period was viewed as "woman's lot," as "woman's nature." They may have received sympathy from the medical profession, but not much more. The cyclical pre-menstrual troubles that afflicted a goodly portion of the female population had, curiously, only in recent years been scientifically investigated.

In 1931, however, with science beginning to explore hormones and bodily regulatory systems, Dr. R. T. Frank for the first time described this unique group of symptoms and gave it its medical name: premenstrual tension. Since then the phenomenon has been studied intensively and found to be a common disruptive element in the home and in the community.

Social and economic toll of problems specifically related to premenstrual tension is heavy:

—A significant percentage of marital quarrels and severe emotional conflicts between women and their children occur during the premenstrual period.

—The annual wage loss for female employees, due to premenstrual tension, is estimated at about $3,570,600,000 per year.

—It is estimated that premenstrual tension accounts for female job absenteeism of 7 to 9 million days per year.

—Studies of both juvenile delinquents and adult female criminals suggest that their destructive activity is at a height during the premenstrual period. In Paris, 84 per cent of all crimes of violence committed by women are said to have occurred during the week-to-ten-day period before menstruation. A U.S. study, conducted at a large woman's prison, echoes these findings: 79 per cent of the inmates' violent crime were committed just before their menstrual phase.

* Another in a series of review articles designed for the retail pharmacist. The information in this article was contributed by the Division of Science and Medicine, Farley Manning Associates.

What are the Symptoms of Premenstrual Tension?

Most women have never heard the term "premenstrual tension," but, if asked by a doctor, "How do you feel about a week before your menstrual period," will report, almost casually, on what may be a startling list of symptoms that they had never thought of mentioning before. It was only after extensive studies had been made that the range of the premenstrual disturbances suffered by many women was fully known to medical science.

The following psychic and physical symptoms have been found to be part of the premenstrual syndrome beginning from 7 to 14 days before the bleeding phase of the menstrual cycle, increasing gradually in severity to the peak, shortly before menstruation — then disappearing sharply with the onset of the menstrual flown. Not every individual suffers from all of these symptoms, nor do individuals experience these symptoms with the same degree of intensity.

Emotional instability
Irritability
Nervousness
Anxiety
Depression
Fatigue and exhaustion
Frenzied activity
Motor retardation
Crying spells or "blues"
Hypersensitivity
Inability to concentrate
Inability to cope with routine problems
Compulsive or manic behavior
Low abdominal pain
Sharply increased or decreased sexual desires
Headaches
Abdominal bloating
Painful swelling of breasts
Menstrual disturbance
Generalized aches and pains
Craving for sweets
Gain in weight or edema
Weakness
Faintness
Trembling of fingers
Increased appetite
Nausea
Vomiting

In the majority of patients, the emotional and physical disturbances are not severe. In more acute cases, as the symptoms become more intense just before menstruation, the physical discomfort is great and the personality changes may become so marked as to simulate psychoneurosis or a severe functional nervous disorder. But even in the mildest cases, the combination of psychological distress and physical illness tends to depress the patient to a sub-par level of functioning, reduce efficiency, and decidedly impair the enjoyment of life.

What is the Incidence of Premenstrual Tension?

Some 3,000,000 American women are presently being treated for premenstrual tension — but it is estimated that the number of sufferers who are going untreated or who are treating themselves is far higher.

The estimates of the incidence of premenstrual tension vary widely — depending upon the intensity and type of symptoms, the observer, and the group observed. An English specialist, for example, estimates that only 10 percent of all women suffer from premenstrual tension. On the other hand, in a recent study of 107 healthy student nurses in this country, 80 percent reported tension, irritability or depression periodically during the premenstrual time. Similarly in a survey of 1,000 U. S. housewives, business women and students, 95 per cent suffered from one or more symptoms regularly during this "witching" period.

The most comprehensive current studies — and the most frequent estimates — indicate that the incidence of premenstrual tension may be around 40 per cent — and that some 50,000,000 women in this country are suffering from it.

Since premenstrual tension is related to the ovulatory cycle, it occurs most frequently in women between 20 and 40 years of age.

What Are The Causes of Premenstrual Tension?

Physiological Symptons

No single, definitive theory has yet been found to explain the total premenstrual syndrome. Indeed, the complex menstrual process itself is one of the basic life functions that is still not completely understood by scientists. But two factors of feminine physiology are definitely known to be associated

with premenstrual tension: hormonal changes and fluid retention.

During the latter part of the menstrual cycle, there may occur a reversal of the normal high progesterone to estrogen ratio. In other words, in such a condition there is an abnormally large amount of estrogen and smaller amount of progesterone. In certain individuals, this reversal of ratio creates an imbalance which is responsible for certain symptoms of physical distress. In addition, the increased production of estrogen over progesterone causes salt retention, which, in turn, causes the retention of water resulting in edema in various tissues. This fluid retention, or edema, is the major sign of premenstrual tension, and it definitely accounts for weight gain, bloating, swelling or distention with the attendant generalized discomfort, aches and pains experienced by so many women at this time.

Psychological Symptoms

The investigation of the psychological phenomena associated with premenstrual tension has been far less fruitful, and highly controversial. All efforts to explain the psychological symptoms in terms of physical causes have either been invalidated, or are just hypotheses. Two of these physiological explanations for the emotional disturbances have been so much discussed that they should be mentioned here.

It was thought until recently by certain students of premenstrual tension, that fluid retention might occur in the brain, during the premenstrual period, and that this might account for the psychological aberrations. But this popular hypothesis has been challenged on three counts: 1) many other illnesses characterized by a much greater degree of water retention are accompanied by a strikingly diversified spectrum of emotional changes — many of them contradictory — and ranging from none at all to an almost psychotic state; and 3) treatment designed only to eliminate the excess fluids does not necessarily eliminate the psychological symptoms.

Another discovery about feminine physiology — that there is usually a slight decline in the level of sugar in the blood several days prior to menstruation with a return to normal within 24 hours after the onset of the flow — has caused a certain agitation among lawyers. This is largely due to an imprecise use of terminology among medical researchers. While the slight drop in blood sugar in the course of the menstrual cycle remains fully within the normal blood sugar range of the healthy individual, researchers have, unfortunately, referred to this phenomenon as "relative hypoglycemia," "sub-clinical hypoglycemia," and even as "hypoglycemia." Hypoglycemia, however, is an extremely serious disease, characterized by a drastic drop in blood sugar, and it produces such symptoms as convulsions, coma, incoherence and aphasia. On the basis of the confusion in terminology, several legal theorists have declared that "premenstrual tension with its periodic hypoglycemia is analogous to temporary insanity," and constitutes a sound legal defense. This theory, however convenient to female criminals, implies that almost the entire female population of the United States is "temporarily insane" and legally irresponsible during a certain period of every month. Medical findings do not support this view.

The best evidence indicates today, that the psychological changes are, at root, independent of the physical signs — but that they are often aggravated or intensified by these physical signs.

The premenstrual syndrome is based upon a physiologic stress of mild degree which occurs within relatively narrow limits in all women, and the individual woman may be subject to various unpleasant bodily sensations. Emotional derangements, especially the neurotic variety, tend to be aggravated during this period. The same individual tends to show the same changes in emotional reactions under stress of other kinds — domestic difficulties, illness, economic troubles, etc. In general, the highly individual emotional reactions of women who suffer from premenstrual tension tend to correlate with their own basic personalities and past histories — rather than with the endocrine change which are fairly universal.

There is also a striking high correlation, in fact, between the degree of intensity of the premenstrual symptoms with the presence of neurotic personality traits. The more generally tense, anxious and neurotic the woman, the more painful her menstrual syndrome tends to be. Similarly, the more difficult to

bear are the specific life problems of an individual woman, the more liable she is to suffer from a more severe form of premenstrual tension. It has been repeatedly observed that at times of stress, symptoms sometimes seem unbearable, but then life flows along smoothly, premenstrual symptoms decrease, or may even pass by unnoticed.

It seems generally safe to say, therefore, that the specific psychological reactions to the stress of the premenstrual period depends more on the individual personality, than on the stress itself. The stress may intensify such emotional disturbances as already exist — and treatment for the physical changes can, of course, ease the aggravated psychological symptoms.

What Is The Treatment For Premenstrual Tension?

Until quite recently, premenstrual tension was not treated at all. Unless physical pain was particularly acute, women did not consult their doctors for help. As was noted, until 1931, doctors themselves were largely unaware of the syndrome.

In more recent years, medication has been of three basic types — aimed at each of the major constellations of symptoms related to premenstrual tension: 1) hormonal changes; 2) retention of fluid, and 3) increased emotional instability or anxiety. Depending on which school of thought her doctor belonged to, a sufferer from premenstrual tension received hormone therapy to restore normal hormone ratios, or a diuretic to drain off excess fluids, or a tranquilizer to calm her nerves and provide relief from anxiety, depression or other exaggerated psychological symptoms. Hormone therapy, diruetic therapy, and tranquilizer therapy have each had their strong partisans in the medical world.

Now, however, new products may resolve the medical debate over which of the three possible aspects of premenstrual tension to treat. One such product, created in the laboratories of the Upjohn Co. called Cytran, combines hormone therapy, a diuretic and a tranquilizer, and provides for a threepronged attack on the major changes responsible for the symptoms of premenstrual tension. Cytran combines Provera, Cardrase, and Levanil. Provera (medroxyprogesterone acetate), is a new and highly active form of progesterone. Cardrase (ethoxzolamide) is a diuretic agent, and Levanil (ectylurea) is a mild tranquilizer.

The Educational Problem

Despite the fact that much remains to be discovered about the menstrual process itself, and premenstrual tension in particular, the major problem faced by doctors in dealing with this syndrome today, is educational, not medical. Medication now exists and is effective, but too many people are still unaware of the premenstrual syndrome, and many of those who are aware of it do not know that these symptoms can be treated.

Millions of women still continue to view their chronic and recurrent physical and mental disturbances as "woman's fate," and many families continue to endure as "inevitable" the emotional difficulties of the wife or mother that take place regularly in the home, during the week or so prior to the onset of menstruation. The ancient view — often expressed, in the modern era, in the form of male humor — that women are mysterious "unpredictable" creatures who turn into "witches" at regular intervals is still deeply rooted in our culture. The fact is that in most cases, the disturbances are predictable — and amenable to medication. So long as it remains misunderstood by the general public, premenstrual tension will continue to be a problem — with costly personal, social and economic consequences.

PRESIDENT'S PAGE

Rx



Dear Members:

Pharmacy today, along with several other related professions, has become conscious of the powerful results of ill-informed gossip, public press releases that are unacquainted and uninstructed as to their findings. This is partly the fault of our self-imposed isolation and lack of proper contact with the public.

This can be corrected by furnishing, when the opportunity offers, authentic statements as to the service that American pharmacy has rendered and what it is doing for public welfare.

Tell the truth, whether the result is to your advantage or not, and it will be only a question of time until the public will respect your work and have perfect confidence in you and your profession.

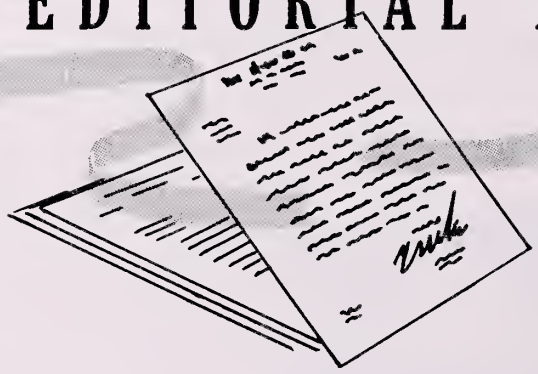
All of the problems we are experiencing today are the result of lack in selling our profession in the past ten to twenty years. We were satisfied in taking what was given us instead of working for a better understanding to the people.

Now our problem is greater and shows no signs of ever becoming easier. We have to convince the public of our ideals and service — let the young people know there is a future in Pharmacy.

Read your journals and other information sent to your store from drug manufacturers. Keep well informed so you can better serve your profession by selling it intelligently and correctly.

Sincerely,
Albert H. Zarecky
President

EDITORIAL PAGE



YOU AND YOUTH

The greatest asset of South Dakota is its youth. I'm sure we all agree that the toughest political problem we have today is the adequate support of education within the framework of tax laws which do not overburden our economy.

The following is a portion of a resolution presented by the Lions Club of Vermillion, South Dakota, to the District Convention of Lions International in June, 1960. In publishing this material your Editor agrees that the general public must be informed of the problems of education in South Dakota. Do you agree? -- Editor.

"WE BELIEVE

1. That our children are our heritage — they shall have the best we can provide.
2. It is the duty of the legislature to establish and maintain a general and uniform system of public schools.
3. South Dakota schools should be at least equal to the average for the nation.
4. The costs for providing such schools must be equitably distributed among all taxpayers of the state.
5. It is the responsibility of each local unit of government to determine how much better than "average" its schools are going to be.
6. South Dakota can afford to provide better than average facilities for the higher education of its youth at no more than moderate costs to enrollees.
7. All qualified young people in South Dakota should have a reasonable opportunity for obtaining a higher education.
8. Education is EVERYBODY'S business.

"We want better schools.

"We want a sound plan for financing education at all levels.

"We are willing to pay for our fair share of the added cost of raising standards to sensible levels.

"SOME GENERAL FACTS ABOUT SOUTH DAKOTA EDUCATION

Following are some facts that point to a need for showing concern for our State's Educational system — and for doing something about it.

1. South Dakota ranks 48th in percentage of school cost borne by state government.
2. Average support of elementary and secondary education by the state is 41% in the Nation, but our state pays only 10% toward the support of such schools.
3. We have far more local school districts than most states and these are smaller than those in most states — the result is

high cost and inefficiency.

4. South Dakota led the nation in property taxes as a per cent of personal income in 1957. (And the property tax is the main source of school support in South Dakota).
5. Some school districts, in terms of assessed valuations and in relationship to the number of children they have to educate, are ten times more able to support their educational costs than are other districts.
6. An efficient high school population approaches 200 or more students. We have 58 high schools in South Dakota whose enrollment is less than 50 pupils. 53 of these schools are 15 or less miles from another operating high school.
7. Every day the entrance requirements for college enrollment become more strict. Our children are penalized if adequate standards are not maintained in our primary and secondary schools.

"ABOUT HIGHER EDUCATION

1. The State has primary responsibility for higher education. At the present time about 42% of our population between the ages of 18 and 21 is enrolled in college. A reasonable projection into the future indicates that by 1970, 47.5% of this group will be in college and by 1975 the percentage will rise to 50%. It is indicated that for every 100 students in college now there will be 160 seeking admission in 1970.
2. Today's world absorbs our college trained people and clamors for more — more and better trained people.
3. A recent trend to raise tuition costs for South Dakota higher education has placed this state in a position of charging the second highest tuition among the schools of our size in our area (twice as much as North Dakota).
4. South Dakota must adopt a realistic building program to provide space for increased enrollments at institutions of higher learning. It is important that such a building program be pursued with the idea of providing substantial facilities and that it not be hampered by short-sighted economy measures.
5. Every effort should be made to provide superior faculties. Quality should not be sacrificed for price.
6. If studies show that services can be improved by reorganization of our higher education system and by consolidation of facilities such changes should be adopted over nearsighted local protests.
7. No qualified young citizen of South Dakota should be priced out of a sound higher education so long as the economy of local, state and federal government can provide it.

"We feel that active support should be given to proposals of the South Dakota Citizens Tax Study Committee which affect education.

"We suggest consideration of all the recommendations of the Committee found on pages 33 and 34 of its final report, with special emphasis on these:

2. In order to alleviate a part of the high burden of property taxation in South Dakota and because the state can levy and collect certain taxes not available to local governments, the committee recommends for the present that the state increase its share of school support to at least 25 percent of the total cost.
3. State aid to education must be based on a system of equalized property assessments in which each district makes an equal effort in relation to its total valuation. Thus, any plan of state aid to education that is primarily concerned with shifting tax burdens from one district to another district, which is already paying proportionately higher taxes by reason of maintaining high standards of education, is unacceptable.
4. The legislature should enact a school district reorganization act which will insure effective reorganization similar to those passed in other states and setting target date of not later than 1965. By this date all property should be in twelve grade school districts each containing a minimum number of elementary and secondary students.
5. All educational funds should be allocated only to those school districts which are actually operating a school.

Rx PHARMACY News

THIRTY-ONE NEWLY REGISTERED PHARMACISTS

A total of 58 pharmacy graduates took the written and practical examinations of the South Dakota State Board of Pharmacy on the South Dakota State College Campus, June 7, 8 and 9.

Of the 58 there were twenty-seven who took only the written examinations prior to their completion of internship requirements.

Thirty-one of those examined passed both written and practical; and, having completed internship, are designated as registered pharmacists.

Those registered are:

Richard J. Akkerman
Beverly Jo Allen
Keith E. Anderson
Richard Assam
Vernon T. Brown
Terry F. Casey
Donald A. Christopherson
Russell P. Enga
Donald Frank
Constance Gill
Clifford A. Hall, Jr.
John C. Jelen
Richard G. Kersten
Donalene A. Larsen
John Jule Lee
Larry B. Leighton
Milo V. Lines
Norval Gene Luke
Frederick F. Martin
LaVern R. Mowell
Paul E. Noll
Richard C. Raddatz
Mary P. Rahilly
Glenn P. Reecy
Ervin E. Rivinius
Arden F. Rohde, Jr.
Ronald L. Schleif
Gerald W. Spawn
Eugene F. W. Struck
Benjamin G. Thompson
Myron D. Weber

SOUTH DAKOTA HOST TO JOINT PHARMACY MEETING

A joint meeting of the District 5, American Association of Colleges of Pharmacy — National Association of Boards of Pharmacy was held October 2 and 3 at the Sheraton-Cataract Hotel in Sioux Falls, South Dakota. Co-chairman for the meeting were Roger Eastman, Platte, South Dakota, President of the South Dakota State Board of Pharmacy and Dr. H. S. Bailey, Professor and Head of the Department of Pharmaceutical Chemistry, South Dakota State College.

Approximately fifty delegates were present from the seven colleges of pharmacy and five state boards of pharmacy located in the states of North and South Dakota, Minnesota, Iowa and Nebraska.



Childhood Heart Murmurs

Willis F. Stanage, M.D.
Department of Pediatrics
Yankton Clinic
Yankton, South Dakota

* Presented at the South Dakota State Medical Association Annual Meeting in Rapid City, June 23, 1959.

The exact meaning of heart murmurs has been under discussion and debate since William Harvey (1587-1657) made the first clear reference to the existence of normal heart sounds.[1] The interpretation of murmurs began first with Robert H. Hooke who is quoted in the **Posthumous Works of Robert Hooke,** written by Richard Willer, London 1705: "I have been able to hear very plainly the beating of a man's heart . . . Who knows, I say, but that it may be possible to discover the motions of Internal Parts of Bodies . . . by the sound they make, that, one may discover the works performed in the several offices and Shapes of a Man's Body, and thereby discover what Instrument or Engine is out of order."

Screening of cardiac defects is of increasing importance because of advances in cardiac surgery. It is now of more importance for the individual physician to distinguish between correctable and non-correctable defects and those cardiac conditions that should be further evaluated at cardiac centers. Ausculatory diagnosis or screening is available to all. It is then important to review the ausculatory changes of the heart found in infants and children.

Three major categories of murmurs will be discussed: Rheumatic heart disease, congenital defects and innocent murmurs. Luisada[2] states that murmurs may have no clinical significance, but there is no murmur without a cause.

Murmurs are vibrations with frequencies of 50-500 cycles per second. Most murmurs are the sound produced, by the turbulence developed, in an otherwise streamlined flow of blood.[9] Systolic murmurs may be divided into mid-systolic ejection murmurs and pan-systolic regurgitation murmurs.[11] Mid-systolic ejection murmurs are caused by the forward flow of blood through the pulmonary or aortic valves. Pan-systolic regurgitation murmurs are due to backward flow of blood from ventricles to auricles through valves that are incompetent and from left to right shunts through a septal defect or patent ductus arteriosus. Diastolic murmurs may be divided into ventricular filling murmurs, atrial contraction murmurs and regurgitation murmurs. The ventricular filling murmur is due to blood flow through stenosed atrioventricular valves or increased blood flow through normal atrioventricular valves. Atrial contraction murmurs are caused by atrial contraction forcing blood through a stenosed atrioventricular valve or by over active atrial contraction ejecting blood through a normal valve. This murmur is many times called a pre-systolic murmur. Regurgitant diastolic murmurs are caused by backward blood flow through incompetent aorta or pulmonary valves.

Closure of the mitral and tricuspid valves is responsible for the first heart sound. Closure of the aortic and pulmonary valves is responsible for the second sound. Usually there is a slight asynchronism between the sounds from the left and right side. Left sided events usually precede the right, and mitral and aortic valves close before the tricuspid and pulmonary valves.

RHEUMATIC HEART DISEASE

According to Geckeller[3] the first change in rheumatic heart disease frequently is a rhythm disturbance, often a gallop. Also premature beats warrant further investigation. If of atrial origin and increasing frequency, they may be a precursor of more serious disturbances. One must also listen for pericardial or pleural friction rubs.

In a survey by Lessof[5] organic murmurs were found to be present in 67% of those patients seen in a first attack of rheumatic fever and in 91% following several attacks. These murmurs were said to be definitely distinguished from innocent murmurs.

The systolic murmur of mitral valve insufficiency may either be rough, blowing, or musical. The murmur is loudest at the apex and may be transmitted to the axillae or to the back. In mitral insufficiency there is occasionally a knock sound in early diastole produced by the impact of an enlarged heart against the anterior chest wall. Often times the first evidence of mitral stenosis is a mitral opening snap. It is usually heard at or near the apex. Next to develop is a slight blowing mid-diastolic murmur, heard best in the left lateral recumbent position. This murmur is also accentuated by slight exercise. Sometimes the diastolic murmur of mitral stenosis can only be discovered while the patient is in the motion of turning to the left lateral recumbent position.[4] The diastolic murmur of mitral stenosis is probably best described as a low pitched rumble filtered out or dampened by a diaphragm stethoscope and best heard with a shallow bell lightly applied.

In rheumatic aortic valvular stenosis a rough systolic murmur is heard in the second right and third left intercostal spaces. There is also usually a diminished or absent second sound.[3] With associated aortic insufficiency there may be an early diastolic blowing high pitched murmur in the aortic area and along the left sternal border.

A murmur is not always present in tricuspid valvular disease and insufficiency can not be differentiated well from a mitral lesion. Other findings in tricuspid insufficiency such as pulsating liver, distended pulsating veins on the anterior chest wall, and ascites are more helpful in establishing a diagnosis when present.

CONGENITAL HEART DISEASE

The incidence of congenital heart disease at birth is reported to vary from 3 per 1000 by MacMahon[6] to 8 per 1000 by Richards.[7] Richards[8] states that 1.7% of all infants have systolic murmurs at birth and the incidence increases to 7% at one year of age. Nadas[9] states that if an infant has a congenital heart

disease at birth, with a murmur, the chances are good that it is pulmonary or aortic stenosis. The predominant murmur of congenital heart disease is systolic with variation in intensity and location.

The congenital cardiac diseases with cyanosis, or right to left shunt, will be discussed first. In Tetraology of Fallot there is an ejection type, loud, and harsh systolic murmur along the left sternal border. This murmur is maximal in the third and fourth left parasternal spaces. The murmur finishes before the second sound which is single, loud, and probably represents the aortic element.

The murmur of Eisenmenger Complex, ventricular septal defect with pulmonary arterial hypertension, is systolic and varies in intensity. The second heart sound may be single or split widely. A blowing diastolic murmur may be present if there is incompetence of the pulmonary valve.

Murmurs are absent in about 30% of defects involving transposition of the great vessels. When a murmur is present it is usually systolic in time.

A systolic ejection murmur is present down the left sternal margin in Truncus Arteriousus. The second heart sound is loud. If there is insufficiency of the valves between the ventricles and the Truncus there may be a basal diastolic murmur. When the insufficiency occurs between the valves and the collateral bronchial circulation, a continuous murmur may be present.

Pulmonary atresia with associated interventicular septal defect may have a faint harsh systolic murmur. If there is increased collateral bronchial blood flow, there may be a diastolic murmur located anywhere in the chest. There may be no murmur.

A harsh systolic murmur along the left sternal border is usually present in tricuspid atresia. The second heart sound at the base is single.

When there is only a single ventricle there is a loud ejection systolic murmur along the left sternal margin. This may be followed by a mid or late diastolic murmur.

The predominant murmurs of congenital heart disease with little or no cyanosis having a dominant left to right shunt, or no shunt, is also systolic in time.

With an interventricular septal defect there is a loud pan-systolic murmur along the left sternal border. The murmur is maximal in the third, fourth and fifth interspaces. The second heart sound is split. If there is pulmonary hypertension the pulmonary element of the second sound is accentuated. There may be a diastolic murmur reflecting pulmonary valve incompetency with marked pulmonary hypertension. Also because of increased blood flow through the mitral valve, there may be a mid diastolic murmur.

Ostium secundum, or atrial septal defect associated with normal atrio-ventricular valves, produces a mid-systolic ejection murmur of low intensity. The murmur is maximal over the pulmonary area and may radiate down the left sternal margin. The murmur is preceded by a loud first sound and the second heart sound is widely split. Occasionally a mid-diastolic murmur is heard at the apex or lower left sternal border. Lenthan and Gray[10] state that the systolic murmur is produced by large pulmonary flow and the loud first sound and mid-diastolic murmur is due to increased blood flow through the tricuspid valve.

The atrial septal defect of ostium primum involves the endo-cardial cushions and produces a pan-systolic regurgitation murmur because of mitral insufficiency. If there is an associated interventricular septal defect there may be a left sternal border ejection systolic murmur. Occasionally there is an ejection systolic murmur caused by increased pulmonary artery flow.

One of the most diagnostic murmurs of congenital heart disease is the continuous machinery murmur of patent ductus arteriosus. This is described as a to and fro murmur.[11] However in infants where the pulmonary vascular resistance is high the shunt is confined to systole. The murmur is pansystolic which distinguishes it from the midsystolic ejection murmur of aortic or pulmonary stenosis. With increasing pulmonary vascular resistance a diastolic murmur develops because of the right to left shunt around normal atriaventricular valves. The murmur is harsh and begins as soon as the onset of the first sound. The maximum intensity is reached at the end of systole and decreased in late diastole. The murmur is localized at the second left intercostal space and may radiate down the left sternal border or to the left clavicle. If there is pulmonary

valve insufficiency the murmur may be confined to diastole.

With simple stenosis of the pulmonary valves there is a loud systolic ejection murmur over the pulmonary area. The second heart sound is widely split. In severe stenosis the murmur may radiate over the whole precordium into the neck and back. If the murmur covers this wide an area the second sound may not be audible.

With obstruction of the outflow tract of the right ventricle due to involutional failure of the bulbus cordis, or infundibular stenosis, there is a loud systolic murmur. The murmur is loudest at the third and fourth interspaces along the left sternal margin. It radiates widely.

When the pulmonary venous return is totally anomalous into the right atrium, there is a systolic murmur along the left sternal border. This may be followed by a diastolic murmur, producing a continuous murmur over the pulmonary area and extending up and under the right clavicle.

The murmur of coarctation of the aorta is systolic and maximum over the base of the heart. It may radiate down the sternum to the apex. This murmur may radiate to the interscapular areas and usually is loudest posteriorly. The aortic second sound is very loud in most instances.

Congenital aortic stenosis may either be valvular with thickened leaflets and fused commissures or sub valvular with the obstruction in the outflow tract. The murmur is a coarse harsh ejection systolic murmur. The maximum part of audibility is over the aortic area but may radiate down the left sternal border toward the apex. If there is a coexisting aortic insufficiency there will be a blowing diastolic murmur. The second sound is usually split.

INNOCENT MURMURS

Complicating the interpretation of murmurs there is an ejection vibratory sound that is heard over many organically healthy hearts. For many years these murmurs were called functional murmurs. The American Heart Association in classifying nomenclature has suggested the term innocent murmur. White[12] in 1942 suggested the term physiologic murmurs; Nadas[9] insignificant murmurs; Nelson[13] accidental murmurs; Luisada,[2] harmless murmurs. These murmurs will be referred to as innocent murmurs in this paper.

The great majority of innocent murmurs are systolic[14] and more specifically are mid systolic.[15] These murmurs may be heard at various sites along the left sternal border and occasionally at the aortic and apical region. The site of maximum intensity can not be used as an absolute criteria to distinguish this murmur from an organic murmur.[16] The murmur is usually not widely transmitted, but transmission is not necessarily proof of organic etiology. Both intensity and audibility are influenced by position. These murmurs with the exception of the venous hum of the neck are loudest in the recumbent position. These murmurs do not respond in uniform manner to exercise.[14] A patient with rheumatic fever may also have an innocent heart murmur.

The incidence of a short systolic murmur in children is variable. Wilson[17] reported 20%, Morton[18] 30%, Freedman[19] reported 47% and McKee[20] reported 90%. Lessoff[5] in a study of healthy children found 96% to have short non-organic systolic murmurs.

The innocent murmur varies in character. It is a vibrating murmur with harmonious overtones and not always pure sounds. It may be blowing or rough or squeaky.[17] It is also reported to be groaning[20] and twanging-string.[21] The murmur may also be called tinny.

Several mechanisms may cause an innocent heart murmur.[2] If there is severe tachycardia with acceleration of blood flow and incomplete valvular closure there may be an innocent murmur. Severe anemia may cause an innocent murmur because of rapid blood flow associated with dilatation of the ventricles greater than the auriculo-ventricular ostea. Dilatation of one of the large arteries leading from the heart may cause an innocent murmur.

A venous hum is a type of innocent murmur produced by turbulence of blood in the jugular venous system. The murmur is a soft buzzing sound and heard in both systole and diastole. The murmur is heard in the neck and upper anterior chest. The murmur is usually accentuated in the sitting position. The murmur may be increased or decreased by varying the position of the head

or by compression over the jugular vein.

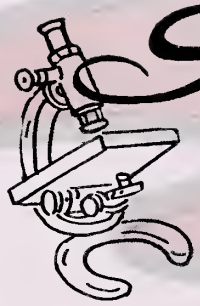
Luisada[2] states that there is no clinical or graphic method for differentiating the innocent murmur from those of organic significance. Geckeller[3] reports that a negative rheumatic fever history if not helpful as 50% of patients with rheumatic heart damage do not give a history of rheumatic fever.

The degree of intensity of the murmur does not correlate with the degree of hemodynamic disturbance.[11] A small rapid flow of blood between areas with large pressure differences will produce a louder murmur than a flow through a very large defect between areas of more similar pressure. Lessof[5] states that there is no conformity of opinion on the characteristics of a systolic murmur which indicates its origin.

A murmur must be evaluated according to its loundness, location, radiation, changing character and time. This then must be supplemented by additional information gained from history, general physical examination, electrocardiographic and x-ray evaluation. In many cases the more specialized cardiac examinations are necessary for a relatively absolute diagnosis. Cardiac auscultation is no better than any other one diagnostic tool but can often lead to a correct classification or description of the type of defect present if attention is focused upon all of the ausculatory phenomenon present in addition to murmurs.

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Scientific PAPER

Some General Considerations of Head and Neck Neoplasms

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and
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Abridgement of a paper presented by the authors at the South Dakota State Medical Association meeting May 16, 1960.

Although tumors about the head and neck regions are usually accessible to visual inspection, they often grow to large size before treatment is instituted. With malignant head and neck tumors, this may be reflected in a high recurrence rate. In this presentation, we shall present some of the problems involved in the diagnosis and treatment of some of the more common premalignant and malignant conditions of the face, oral cavity, and neck.

SCALP MALIGNANCIES: Because regions of the scalp are difficult for the patient to examine himself, scalp malignancies, most of which are basal or squamous cell carcinomas, may grow to enormous size before treatment is sought. These tumors continue to expand and grow along the surface of the skin, and others act as an iceberg, and grow actively below the skin surface. In those which have recurred, invasion of the skull is not uncommon. The smaller lesions can be simply excised widely and the larger ones should be excised and the defect remaining covered by a free skin graft to close it. With large lesions of long duration, the defect remaining after excision may be so large that coverage is possible only with a free skin

graft. If cure is accomplished the conspicuous hairless area on the scalp from the free skin graft can be covered by revised styling or a hair piece, or it can be gradually excised in stages and adjacent scalp advanced over it.

With removal of a large (4 cm. or larger) basal or squamous cell carcinoma of the scalp, it is unwise to cover the defect initially by rotating in adjacent scalp because of the uncertainty in ability to control the lesion. A better approach is to cover the defect with a split skin graft and wait a year or more before and further definitive reconstruction is carried out.

For squamous cell lesions, the neck and preauricular regions should be observed for metastases, but metastases are not sufficiently frequent to warrant a node dissection in the absence of clinical evidence of metastasis, a so-called prophylactic node dissection.

EYELID MALIGNANCIES: Malignant tumors of the eyelids are most commonly basal cell carcinomas. Though many men advocate radiation therapy for these tumors, we feel that adequate surgical excision, followed by frozen section confirmation of your clinical estimate of adequate removal, is the treatment of choice. With lesions that are invading the tarsal plate, the whole thickness of the eyelid should be excised. Up to about one-third of the width of the lid can usually be excised by a simple V-type excision, and the edges approximated. With larger lesions, a local flap may be employed to close the defect.

EAR MALIGNANCIES: The skin cancers of the external ear are practically all basal or squamous cell carcinomas. They may occur on any region of the ear. Only in the most superficial lesions should the underlying cartilage be saved. For the majority of cases, the lesion should be removed with a moderate margin including the underlying cartilage. This will often necessitate closure of the wound with a free skin graft, which can be obtained as a full thickness graft from behind the same or opposite ear, or as a split thickness graft from the hip region. With squamous cell carcinomas, the neck should be observed for the appearance of metastasis, but a prophylactic node dissection is not advised.

RADIODERMATITIS: Radiodermatitis is frequently a very difficult problem to manage. Some of these people received irradiation to their skin many years ago, often for removal of hair or for treatment of acne. As we now know, the ill effects of radiodermatitis, often do not show up for twenty or more years. The involved atrophic skin is tight and inelastic and the possibility of malignant degeneration in this permanently damaged skin is a real one. Replacement of this radiation damaged area with an appropriate free skin graft, or if necessary, a skin flap, will reduce the danger of malignancy and give a more durable and comfortable skin coverage.

This irradiated skin maybe damaged to an extent that only slight trauma produces a non-healing ulceration. Occasionally, some of these chronic ulcerations can be covered with a free skin graft, but often a flap of normal tissue must be used to close the defect. If the local tissues are damaged severely by the irradiation, a pedicle flap from a more distant part of the body is required.

EPITHELIOMAS OF THE NASAL SKIN: With epitheliomas about the nose, which are nearly all basal cell epitheliomas, the iceberg phenomenen is often seen. Here large tumors may lurk below the surface of skin with only a smaller central portion visible on the surface. Here the use of frozen tissue examination is very helpful in obtaining adequate removal prior to closure of the nasal skin defect with a local skin flap or a free graft. At least a twelve month waiting period between original treatment and reconstruction is advisable.

TORUS PALATINUS: Torus palatinus is mentioned here only because it will be encountered in the differential diagnosis of palate tumors. This bony exostosis lies in the midline of the palate. Tumors of the minor salivary gland origin (mixed tumors or adenocarcinomas) should be considered in any mucosal covered palatal tumor that is less than bony hard or is not exactly in the midline.

A torus palatinus may become burned and ulcerated from hot food. If large, it may interfere slightly with speech, and if a denture is required, it may interfere with holding up the denture. It is usually removed under general anesthesia with bone resecting instruments.

LEUKOPLAKIA OF LOWER LIP: Though

the exact cause of leukoplakia is not completely understood, its occurrence predominantly on the lower lip, on men exposed to sunlight and elements, has linked it etiologically to chronic irritation. In some people, the thick areas of leukoplakia are at sites of holding cigarettes, cigar or pipe. The fairly frequent occurrence of squamous cell carcinoma occurring in areas of thickened leukoplakia has linked it to lip cancer.

The chronic scaling and peeling that occurs with leukoplakia, as well as its possible transformation to lip cancer, can be completely relieved by the simple operation of removing the offending diseased mucous membrane, the so-called lip shave operation. Following such an adequate elliptical excision of the entire vermillion portion of the lip, the patient can be given quite good assurance that cancer will not develop in the lower lip.

CANCER OF LOWER LIP: Nearly all cancers of the lower lip occur at or near the junction of the skin and vermilion. Practically all lower lip cancers are of the squamous cell variety. Malignant tumors of minor salivary gland origin are rare.

The primary lip lesion can usually be controlled by an adequate excision or by irradiation therapy. We favor excision (this can be done well under local anesthesia) followed by immediate frozen section study to confirm that the margin of excision is adequate. This is a very simple operation and entails as little as one or two days of hospitalization and about a week of disability. Even in very extensive lower lip cancers, such as those that involve essentially the whole lower lip, management is possible by wide excision and reconstruction of the whole lower lip by primary plastic operations making use of cheek tissues beyond the angles of the mouth.

In lip cancer, if no suspicious cervical nodes are palpable, the incidence of unsuspected cervical metastases is quite low and does not warrant a so-called prophylactic neck dissection. If neck nodes on palpation suggest metastases, a radical neck dissection should be offered the patient. Fortunately, neck metastases from lip cancers are more curable than those from oral cavity cancers.

LEUKOPLAKIA OF ORAL MUCOSA: Leukoplakia of the oral mucosa, particularly on the tongue or cheek, if well localized and not too extensive, can be easily excised. With more diffuse patches, the areas can be removed nicely by electrocoagulation, preceded by biopsy of the thickest areas to be certain that it is only thickened leukoplakia. Leukoplakia about the upper and lower gingiva can be removed by light electracoagulation. This can be done either under local anesthesia in elderly patients or under general anesthesia if preferred.

Lichen planus occurs on the oral mucosa, particularily the cheek and tongue. The patient usually complains of some soreness in the region, and its light lacy appearance distinguishes it from leukoplakia. Oral lichen planus is often seen in the absence of the papular flexor surface lesions of the skin.

CARCINOMA OF ANTERIOR TONGUE, FLOOR OF THE MOUTH AND LOWER JAW: Practially all of the cancers of the anterior tongue, floor of the mouth and lower jaw are of squamous cell type. They arise from the oral mucous membrane and usually present as an ulcerated indurated lesion. There appears to be an association of these cancers, and especially anterior tongue cancers, with smoking and alcohol intake, and poor oral hygiene. Cancer of the anterior tongue is found frequently in the man who has smoked heavily for many years and has a considerable alcohol intake. Some of these patients have hepatic cirrhosis. These features must be considered in the treatment of these patients as some will present confusion and delirium tremens in the postoperative period.

Two big problems loom in treatment of oral cancer. First, controlling the primary oral lesion, and second, controlling the neck metastases. In England, irradiation is a frequent method of treatment of the oral growth. In this country, wide excision of the primary growth is usually preferred. In the tongue, this may take the form of a hemiglossectomy. Neck metastases are usually removed by a radical neck dissection. Whether these should be combined in an en bloc removal of the local growth and the cervical lymphatics is still unsettled. Obviously, if there are nodes in the neck which appear clinically to contain metastases, they should be removed, probably by a conventional radical neck dissection, however, realizing

that these neck specimens will be negative to pathological examination in about twenty percent of the cases. Even here, where the neck nodes appear to contain metastases, en-bloc removal of the primary and neck nodes is still controversial. Because of the inability to predict whether the primary oral lesion can be controlled and the inability to accurately predict the pathway of metastasis (this being due to the lesion crossing the midline or to metastases occurring to the opposite side of the neck), the question of a prophylactic neck dissection is brought up. Prophylactic node dissection is not, of course, an operation to prevent metastases, but is a node dissection done in the absence of clinical evidence of metastasis. In patients with these oral cancers, who, on clinical examination, appear to be free of cervical metastases, about fifteen to twenty percent will actually harbor metastases in the neck. Because of the extremenly poor outcome in patients with proven neck metastases, one would hope that by doing these early dissections, that more patients with small metastases in the neck could be salvaged before the neck metastases become large and uncontrollable. Logically, we would expect this to be true. Unfortunately, we cannot prove, even after extensive study, that removal of these small metastases at a somewhat earlier date by a prophylactic neck dissection, will increase the number of patients cured of their cancer. Because of the low mortality and morbidity from a radical neck dissection, this operation should be recommended to patients with well lateralized oral cancers that have a reasonable chance of local control. Whether the combined en bloc oral and neck operation should be recommended for patients in which nodes are clinically absent, is yet a controversial point.

Certain oral lesions can also be removed satisfactorily by electrocautery. If a tumor and a moderately wide margin of normal tissue is removed electrosurgically, this is an effective method of controlling the primary oral growth, especially in the lower jaw and floor of the mouth. With many of the smaller growths, the mandible can be partially removed by electrocautery and rongeurs. The continuity of the mandible may be saved, and a noticeable functional and cosmetic deformity spared. The neck can then be handled by an ordinary neck dissection.

Up to now we have only mentioned the combined en bloc operations. Obviously where a big cancer is present, a big operation is necessary. Surely, the combined operation is the only treatment that offers any hope for a patient with a growth that is extensively invading the mandible, and this operation has salvaged many of these patients who would otherwise not be cured. Its use in young healthy patients with large growths may be advisable. But its widespread use in patients with small superficial growths of the alveolar process or floor of the mouth that extend on to the alveolar process, especially in the older poor risk patient, seems unjustified to us in that there exists no proof available that this ultra radical surgery for the majority of patients will increase the number of patients cured of their cancer.

CARCINOMA OF THE BUCCAL MUCOSA: Many of these growths are papillary in type and of low histologic grade and can be treated by excision or irradiation. However, some will be infiltrating through the thickness of the cheek and complete removal may leave a through and through defect, which is temporarily mutilating, but which can be repaired by use of the pedicle skin flap.

MULTIPLE ORAL CANCERS: When a patient has an oral cancer, a second oral cancer should be ruled out. Also at the time of quarterly post-treatment check-ups, check not only the original site of the primary and both sides of the neck, but check all areas of the oral cavity and pharynx for other lesions.

THE PROBLEM OF A LUMP IN THE PAROTID REGION: A lump in the parotid and preauricular region immediately calls attention to the parotid gland tumors. A firm mass in the parotid region, which according to a patient's story, has been present a year, three years, five years, or more, which is not enlarging noticeably, and is otherwise asymptomatic, is almost surely a benign parotid mixed tumor. With more rapidly growing tumors, that may be associated with discomfort, parotid malignancy is suggested. The most common one is adenocarcinoma. If, in addition, the growth of the tumor is associated with facial paralysis, one can be almost certain that it is due to malignant invasion of the facial nerve.

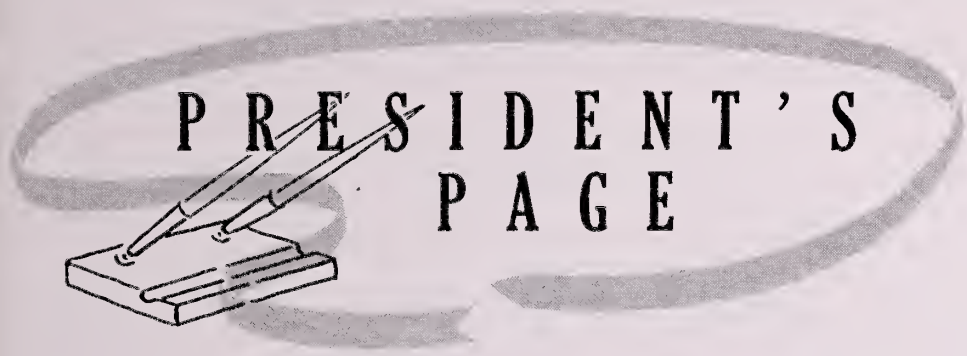
However, recalling that there are numerous lymph nodes in the preauricular and parotid regions, a lump in the parotid region should not be immediately accepted as a primary parotid tumor without a brief but thorough examination to eliminate it as a metastatic mass. Examination of the scalp, eyelids, or cheek may reveal a small treacherous melanoma that has not caused the concern of the patient. A brief examination of the oral cavity, using good light and a finger cot should eliminate the oral cavity as a possible source. The nasopharynx is a source of highly malignant tumors that often metastasize to the upper neck and preauricular region. If you are unable to examine this most difficult area, at least a few well directed questions related to this region will help and consultation may be advisable. The interrogation should include questions about hearing loss or "ear fullness" due to eustachian tube obstruction, headache, epistaxis or nasal obstruction, and questions related to cranial nerve function. After this simple examination, one can operate on a parotid region mass with reasonable assurance that it will not be of metastatic origin.

THE PROBLEM OF A LUMP IN THE LATERAL NECK: Occasionally one will encounter a patient whose initial reason for consulting the doctor is a lump in the neck, with no other symptoms being prominent. Assuming that this lateral cervical lump is not a benign lesion, such as a lipoma, neurofibroma, or branchial cleft cyst, we are left with a mass that is probably metastatic. A thorough and inquiring history may give a lead as to the site of the primary lesion, which usually is of head or neck origin. Again, special questions related to eustachian tube function, epistaxis, or nasal obstruction will suggest the presence or absence of a high anaplastic nasopharyngeal carcinoma. A chronic sore throat, or painful or difficult swallowing may be produced by a carcinoma of the base of the tongue, tonsil, oropharynx, laryngopharynx or larynx, which has already metastasized to one or both sides of the neck. A good mirror examination of the nasopharynx and larynx regions is advisable and a detailed and inquiring history plus a good direct oral examination and palpation with the finger will detect most of these oral lesions. Not to be ignored is the facial and scalp skin and the thyroid gland. Occasionally a neck metastasis has its origin from a small melanoma, which is most frequently found on the cheek, temporal scalp, or elsewhere on the body. Palpable neck metastases are occasionally the prominent symptom of an unnoticed but detectable thyroid carcinoma, particularly the low-grade papillary variety.

If one remembers that primary carcinoma of the neck is practially non-existant, and remembers these sites which frequently metastasize silently to the neck, one will seldom operate in the the neck solely to establish the nature of the lump, but will be carrying out a well executed plan to cure the patient's disease.

SUMMARY

We have here discussed some of the more common problems related to the diagnosis of the pre-malignant and malignant conditions of the face, oral cavity, and neck that are seen by physicians. The treatment of these conditions, including some of the more controversial points is discussed.





By the time this is published the elections will be over. This is a good time, then, to implore all doctors to continue interest and efforts in the fields of politics and government. We can no longer afford to sit back and take a lackadaisical attitude toward government. The minute we do, someone with an idea to improve medical care comes along and starts pushing it. Now it may be a good idea, but unless we are on our toes a very bad one may snowball into a great "public demand," and where does that leave medicine? Behind the eight ball!

One important area where our influence can and should be felt is in getting our state to participate in the federal medical care plan, now the law of the land, which calls for state appropriations on a matching basis to give medical care to the needy aged. If the states do not participate in the present plan, you can be sure that the social planners will be pushing all the harder to socialize care for the aged, and we all know that this is just a step on the way to complete socialization of our profession.

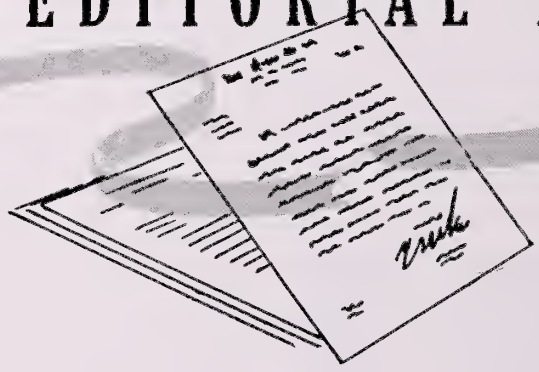
Get to your legislators and make your convictions known!

Sincerely yours,

C. Rodney Stoltz, M.D.

President

EDITORIAL PAGE



"DON'T SAY WOW"

No one would dispute the axiom that the physician's task is to relieve suffering and not to cause it. Yet many sincere, honest, and conscientious physicians are doing just that, often by instilling or furthering fears. Fear is a leading cause of morbidity and a formidable one. When a physician stirs up fears, he often does so by means of ostensibly trivial ommissions or commissions.

I have remarked to many a patient that he would be better off with a broken leg than with the fears that beset him. A broken leg is obvious and overt; fears stem from apprehension of the unknown.

There are several areas in which a doctor can fan fears into a debilitating illness by his ill advised words and deeds or by the ommission of a comforting gesture or word. Only a few will be explored here. The lexicographer has coined a convenient word that applies here, namely **iatrogenic.** Only those iatrogenic fears caused by awkwardness of bedside manner will be considered here.

First there is the question of blood pressure taking. Many people are unnecessarily **suffering** from blood pressures that read something like 180 over 110, or maybe 240 over 80. In the first instance statistical researchers of the past few years seem to indicate that such a pressure is within normal limits for many people in their later years; and in the second instance true diastolic hypertension is not present and the reading is relatively unimportant clinically. Furthermore, when readings are somewhat higher than the first listed above, the finding may not be very important in the absence of accompanying evidence of involvement of the fundi, kidneys and the heart. In such a case little or no treatment is indicated other than reassurance. Scaring nice folks out of their wits by popping one's eyeballs, letting one's hair stand on end, turning various unnatural colors and uttering the single syllable "Wow!" (or its equivalent) is all that is necessary to cause a serious incurable fear. When this sequence of events occurs after the discovery of blood pressures such as these listed above, it is a sad occasion.

When the physician shows any alarm at all, even when the pressure is higher and possibly clinically important, the effect of his alarm is scarcely less unfavorable upon the



Sister M. Frances

patient's health and does much to vitiate his attempts at drug therapy. It is indeed discouraging for a patient who has been thoroughly impressed with the magnitude of his pressure, whether high or high normal, to be told after a few months that it is no better. A better approach for the physician to employ, even when the pressure breaks the sphygmomonometer, is to say calmly "Your pressure seems to be up a bit . . . . Let's check it again in a few days and maybe start some treatment."

Much could be said about heart murmurs, both organic but unimportant, and nonexistent murmurs due no doubt to defective stethoscopes. It is just as alarming for many people to be told of their murmurs as it is to be told of their high normal blood pressures. Murmurs should be soft-pedalled all the more because few if any of them can be cured and no one has ever died of a murmur. Our job as physicians is, again, to bring comfort and not to display our erudition in medical science.

Then there is the silent treatment which is so often used to the patient's detriment. Silence is painful, engenders fears that do not exist and augments fears that are smoldering. The doctor who **silently** examines his patient, **silently** listens to the heart for long periods, and then **silently** walks out without telling his victim a single word of comfort is doing more harm than good. The patient imagines the worst and knows that he has cancer or something equally dismal. I believe that the interests of good treatment are served when we tell the patient what we think is wrong immediately after the physical and history even though we have not confirmed these impressions. Most people are unhappy or have functional disorders, on the basis of statistics; if such is our impression, why not share the good news with him at once? We might say something like this: "On the basis of all that you have told me and all that I have found by examining you, I am pretty sure that you have what we call a 'nervous stomach' . . . . but let's get a few tests to make sure." This leaves a way out for the physician if he feels he needs one and the patient is much relieved. The patient might even be impressed that the doctor was able to analyze the problem without resorting to all those tests and x-rays.



Sister M. Frances

The silent treatment is also a disturbing influence when doing spinal taps or proctosigmoidoscopic examinations. The prospect of having a long needle inserted into one's spine or a section of pipe inserted from behind towards one's tonsils is an unhappy one for all but the most stalwart. Again it is the fear of the unknown. I learned how to wield that latter instrument from a skilled gastroenterologist who kept up a constant but soothing line of chatter concerning what he was doing from moment to moment, what he was seeing, and the how and the why. Most

of the patients were far more cooperative because of the absence of that fearful silence and were able to relax much more effectively; and on a few occasions he actually did reach the duodenum.

One is reminded of the old lady who was enthusiastically praising the new preacher after his first sermon. When asked what the minister had said, she exclaimed, "Oh it wasn't what he said . . . . it was the way he said it!"

In summary, we must agree that sometimes our success as physicians and the health of our patients depends more upon how we do it than what we do. Let's not do anything to cause fear or aggravate fears because fear is what most people are suffering from.

Gordon S. Paulson, M.D., F.A.C.P.

NON-PENETRATING CARDIAC INJURY

Non-penetrating cardiac injury resulting from chest or body trauma, with or without immediate or delayed death, occurs often and is frequently not recognized prior to the patient's death and autopsy. Surgeons and physicians are not aware of the relatively high frequency of its occurrence, probably because symptoms are minimal or non-specific, death may not occur from the cardiac trauma, or the severity of other injuries obscure the heart injury. In 1958 the Armed Forces Institute of Pathology reported 546 autopsies from a total of 207,548 autopsies on patients dying from all causes (0.1% incidence). The true incidence of non-penetrating cardiac injury is difficult to determine since most patients recover after the injury. When the physician searches for cardiac injury in any patient suffering severe trauma, especially chest trauma, he discovers a 10 to 75% incidence. Considering the number of non-fatal civilian automobile accidents each year in the United States, there may be more than 100,000 non-fatal non-penetrating cardiac injury patients each year from this one cause alone. The highest incidence of such cardiac injury is expected in military medcine, industrial injuries, and automobile accidents.

Multiple types of forces produce non-penetrating cardiac injury:

1. Direct: a direct blow to the chest or sternum which need not be sufficient to produce external evidence of trauma. (Unidirectional force.)
2. Indirect: sudden compression or crushing of the extremities and trunk raises intravascular hydrostatic pressure sufficient to produce cardiac injury. (Such as sudden burial in shifting sand and falls from great heights.)
3. Bidirectional forces or compression of the thorax, such as compression between moving objects.
4. Deceleration: sudden deceleration of the body. The heart, being mobile within the thorax, strikes the sternum or vertebral spine.
5. Blast: actual cardiac wall or septum rupture or contusion has occurred from exposure to blast forces.
6. Concussion of the heart: forces of small magnitude yet sufficient to cause sudden jarring of the heart may produce cardiac standstill or arrhythmia, without significant pathologic myocardial lesions discoverable.
7. Combined forces: in auto accidents usually deceleration, direct, and compression forces act in unison; as with steering wheel injuries.

A rapidly moving baseball, golf ball, tennis ball, swinging rigid object, fist blow, horse kick striking the sternum or chest have produced direct forces resulting in symptomatic cardiac injury, occasionally with death. The most serious non-penetrating cardiac injuries after slight forces occur in patients who have pre-existent heart disease, especially coronary artery occlusive disease.

Experimental studies, where the heart was directly contused (injured), indicate that unless arrhythmia or cardiac rupture follow the injury (immediately or delayed for 10 to 14 days), the animal survives with minimal or no evidence of the injury, although rarely ventricular aneurysm, chronic heart failure, or pericardial disease may result. Electrocardiographic studies after the experimental injury showed various arrhythmia, conduction disturbances, and patterns resembling myocardial infarction or pericardial disease (usually pericarditis). The same symptoms, manifestations, and course occurs in humans. Death due to cardiac contusion and/or laceration may be unsuspected prior to autopsy in patients with minimal body injuries and no

external evidence of injury. The greater amount of cardiac trauma often occurred in patients with chest trauma without fractures.

The most important types of non-penetrating cardiac injury discovered at autopsy (546 patients in the 1958 AFIP series): rupture (wall, septum, valve cusps or attachments) — 353; contusion/laceration — 129; pericardial laceration — 35; hemopericardium — 25. Aortic rupture may accompany the cardiac injury and cardiac injuries were often multiple.

Diagnosis depends upon suspecting the possibility of cardiac injury in all patients with almost any injury, with a higher frequency in chest injuries and older age patients. Immediate diagnosis of cardiac rupture with immediate cardiac surgery will salvage some. There are few characteristic signs which permit an antemortem diagnosis in the most severe cardiac injuries. The patients suffering contusion and/or laceration without rupture may complain of symptoms resembling myocardial infarction or acute pericarditis (with or without effusion.) Insidious cardiac enlargement over the two to four weeks after trauma usually is due to pericardial fluid (blood or serous). Electrocardiographic tracings, repeated at intervals if necessary, may show changes suggesting fresh (acute) myocardial infarction, acute pericarditis, conduction disturbances (bundle branch block, A. V. block), and arrhythmias. If sufficient cardiac muscle is injured, the SGO-transaminase, sedimentation rate, C-reactive protein, and lactic acid dehydrogenase show rises resembling myocardial infarction. However, skeletal muscle and bone injuries will cause rises, and these tests lose some diagnostic value in many instances.

Treatment of the heart injury depends on the manifestation occurring. Usually the patient is best treated as if he had a myocardial infarction. Cardiac surgery, pericardiocentesis, thoracentesis, bed rest, and cardiac drugs will depend upon the individual patient's course after injury. Anticoagulants should be avoided because of the danger of initiating or extending hemorrhage. Hemopericardium requires aspiration or surgical drainage to prevent constrictive pericardial disease. Recognition and treatment of non-penetrating cardiac trauma will save lives.

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Robert F. Thompson, M.D.

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MEDICAL LIBRARY BOOKSHELF



Miss Eileen Cunningham, Medical Librarian emeritus, Vanderbilt School of Medicine has been supervising the organization of the Medical Library at the Pakistan Institute. In the **Bulletin of the Medical Library Association,** v. 48, p. 292, 1960 she gives a description of the medical colleges of Pakistan and an account of her work in establishing the library. The classification system which was devised by Mrs. Cunningham and which she has used for the collection in the Pakistan Library is the one which we adopted for use in our University Medical Library.

According to the article written by Mrs. Cunningham, there are at present nine medical colleges in Pakistan and in most of them active programs of reorganization and building are in progress. These should go a long ways toward providing doctors and medical care for nearly 84 million people, but does impose a great financial burden on the country.

The University of Indiana, under contract with the International Cooperation Administration, agreed to assist the Government of Pakistan in establishing the Basic Medical Science Institute at Karachi. This agreement included providing a staff, giving administrative guidance, procuring and installing valuable scientific equipment, laboratory furnishings, a high pressure water system for laboratory work, and air conditioners.

Dr. Amos Michael of our Medical School faculty has been invited by the University of Indiana to join the teaching staff of the Institute of Karachi. He has been granted a leave of absence and will leave for Pakistan next month.

The Institute is housed in a remodeled building provided by the Government of Pakistan on the grounds of the Jinnah Central Hospital. Work on the physical plant was begun in the latter part of 1957 under the guidance of Dr. Paul A. Nicoll, Director of the Institute. The majority of the students were selected from among the laboratory assistants in the medical colleges of Pakistan. At the end of a two year program, a Master of Science will be awarded under the authority of the Medical Faculty of the University of Karachi with which the Institute is affiliated. A second group will be admitted during the summer of 1960, with 48 being the full student capacity. It is expected that a number of graduates will teach in the medical colleges.

The medical library is located at the center of a long one-story structure. With the exception of the desk, card catalog cabinet, Kardex cabinet and a few typewriter tables and chairs which were imported, everything

else has been made locally and furnished by the Government of Pakistan. The tables and low bookcases are made of teak wood from East Pakistan which is a beautiful hard wood, resistant to insects with a lustrous brown color when polished. About 135 journals, mainly American and British are received. The binding of back issues is done in Indiana and sent by sea freight which makes for unavoidable delay.

The Institute was fortunate in having someone like Mrs. Cunningham with her background of library experience to organize, equip, catalogue and select materials for this functional and attractive library.

GIFT BOOKS

Two gift books from the Lange Medical Publications, Los Altos, California are valuable additions to our collection. One, **The Handbook of Medical Treatment,** 7th edition, edited by Milton J. Chatton et al, 1960 would be of value to the practitioner for everyday use. It in no way takes the place of a textbook but is a quick and concise reference to the general priniciples, plan of treatment, local and general measures, signs and symptoms and other information needed by the practitioner.

Chapters include general aspects in medical management, consideration of fluid balance and electrolyte and acid-base balance; intravenous fluids; general symptomatic treatment; fever; shock; psychiatric disturbances; insomnia; diabetics and nutrition; diseases of the skin; diseases of heart and respiratory system, blood and lymphatic systems and others. The index is a valuable part of this highly usuable and well-arranged handbook.

A second gift from Lange Medical Publications is the 1960, 4th edition of **Review of Medical Microbiology** edited by Ernest Jawetz et al. Many of our medical students purchase this as a considerable portion of it is devoted to the basic sciences and also because, as the title indicates, it is valuable for review purposes. Some of the thirty-six chapters include bacterial metabolism; antimicrobial chemotherapy; antigens and antibodies; medical mycology; spiral mocroorganisms; many viral diseases and infections. There are excellent charts and illustrations and a good index.

Mrs. Esther Howard
Medical Librarian

F. C. NILSSON, M.D.
1883—1960

Dr. Frederick C. Nilsson, 77, who practiced medicine in Sioux Falls for 36 years prior to his retirement in March died at White Bear Lake, Minnesota, September 8th. He had been in ill health since his retirement.

Dr. Nilsson, an eye, ear, nose and throat specialist had been living with his daughter, Mrs. Gerald (Andreanna) Oestrich at White Bear Lake.

Born near Alta, Iowa, June 12, 1883, he moved to Laurens, Iowa, as a small boy. After his graduation from Northwestern University in 1909, he interned in Cook County Hospital in Chicago. Dr. Nilsson then returned to Laurens where he practiced medicine until enlisting in the service in 1918.

Following the war, he went to Iowa City for specialist training in eye, ear, nose and throat. He moved to Sioux Falls to start a practice in 1924.

Mrs. Nilsson, the former Lillian Smith, was killed in an auto accident in California in January, 1959.

Survivors, in addition to the daughter, are a son, Frederick Nilsson, Jr., White Bear Lake; three brothers, Dr. M. M. Nilsson, Denver, and E. P. and L. T. Nilsson, Sioux Falls; two sisters, Esther Nilsson, Sioux Falls, and Mrs. J. A. Peterson, Iowa City, and six grandchildren.

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COUNCIL MEETING
SEPTEMBER 25, 1960, 1:00 P.M.
MEDICAL ASSOCIATION HEADQUARTERS
SIOUX FALLS, SOUTH DAKOTA

The meeting was called to order by Chairman J. J. Stransky, M.D. at 1:00 P.M. Present for roll call were Drs. C. Rodney Stoltz, C. J. McDonald, Magni Davidson, A. P. Reding, R. H. Hayes, R. A. Buchanan, E. J. Perry, J. J. Stransky, M. C. Tank, L. C. Askwig, Paul Hohm, P. P. Brogdon, N. E. Wessman, T. H. Sattler, J. D. Bailey, E. P. Sweet, H. E. Lowe, and E. A. Johnson. Guests present were George Hall and Charles Johnson of the AMA Chicago staff, Mr. Wilbert Penberthy of the Federal Narcotics Bureau, Mr. Robert Bowling of Continental Casualty Company, and Mr. J. D. McGreevy.

Dr. Wessman moved that the reading of the minutes of the last meeting be dispensed with as they have been published in the Journal. Dr. Askwig seconded the motion and it was carried.

A report on the status of the building fund was presented as follows:

	Anticipated Costs	Paid Out	Yet to be Paid
Attorney Fees	$ 150.00	178.00	
Architects Fees	4,607.35	4,792.00	
Land	6,000.00	5,400.00	$ 600.00
General Contractor	59,829.78	42,298.89	17,530.89
Electrical	5,890.00	5,393.84	496.16
Plumbing	4,017.35	4,420.22	
Heat and Air Conditioning	7,052.00	5,346.80	1,705.20
Miscellaneous (Furniture)	387.00	1,813.25	1,000.00
	$87,933.48	$69,643.00	$21,332.25

Assets to use for payment	
In Bank	$14,905.99
Pledges Uncollected	4,300.00
	$19,205.99

Dr. Davidson moved that the Council accept the report on the headquarters building. Dr. McDonald seconded the motion and it was carried.

Mr. Foster explained the proposed letter of agreement which has been submitted to the Association by the Veterans Administration. The Standard Veterans Administration fee schedule will be used by the VA in this program.

ADDENDUM #1
Proposed Letter of Agreement
South Dakota State Medical Association

TO: Manager
Veterans Administration Center
Sioux Falls, S. D.

The **South Dakota State Medical Association** (hereinafter referred to as the Association) and the Veterans Administration, for the purpose of maintaining a well-integrated service for providing medical care to veterans beyond those services which are feasibly available in Veterans Administration facilities, do mutually agree as follows:

1. **Eligibility of Physicians.** All professionally and ethically qualified physicians who are U. S. citizens and licensed to practice medicine and/or surgery in the State of South Dakota will be eligible to participate in the Veterans Administration medical program. It is understood that participating physicians reserve the right to decline to accept any individual case.

2. **Register of Physicians.** The association will submit to the Veterans Administration Center, Sioux Falls, South Dakota, a listing of its members who qualify as indicated above and desire to provide services to eligible veterans. The Association will furnish information promptly to the Veterans Administration of any additions or deletions thereto to be made to the register of participating physicians. It is understood that a physician may withdraw from this program at any time by notice in writing to this effect to the Association.

3. **Choice of Physician.** Veterans for whom outpatient services are authorized may select any eligible physician practicing in his home community if outpatient treatment is to be provided. Free choice of physician will not apply in the case of examinations for compensation or pension disability rating purposes. When such examinations are required, the Director, Professional Services or the Chief, Outpatient Service of the Veterans Administration field station of jurisdiction will designate the physician to perform the evaluation.

4. **Eligibility of Veterans.** The Veterans Administration will determine the legal and medical eligibility of veterans prior to authorizing care.

4. **Schedule of Fees.** The fee schedule attached to and made a part of this letter of agreement is composed of those items of medical and ancillary services appropriate for authorization to fee basis physicians. These items and the fees shown are extracted from VA DM&S Manual M-1, Part I, DM&S Appendix A, Revised, dated June 15, 1959 (effective August 1, 1959). The fees shown are the maximum that may be approved by the field station. Fees authorized will not exceed those charged the general public in the community for similar services. When undue complications are met or under other extenuating circumstances, physicians may request consideration for payment of a higher fee by submitting a special report to the Veterans Administration field station of jurisdiction.

6. **Distribution of Fee Schedules.** The Veterans Administration will distribute copies of the fee schedule and all approved changes thereto to each active participating physician.

7. **Adjustments to Fees.** It is understood that fees for services listed in the schedule may be considered for adjustment when mutually found to be inequitable. If upward adjustments in fees are sought, the Association will submit proposed increases to the Manager, Veterans Administration Center, Sioux Falls, South Dakota prior to January 1 of any given year to permit the Veterans Administration to make adequate financial plans. Approved adjustments will become effective at the beginning of the following fiscal year (July 1).

8. **Operating Procedure.**
   (a) All authorizations for examinations and treatments will be issued direct to participating physicians by the Veterans Administration.
   (b) Physicians will submit reports of services rendered and related claims for payment directly to the Veterans Administration Center, Sioux Falls, S. D. Reports that do not meet the requirements of the Veterans Administration will be returned to the attending physician by the Manager for appropriate amplification without additional cost to the government.
   (c) Following professional review of clinical reports and financial audit of physicians'

claims, the Veterans Administration will make payment to the physician within a reasonable time for services rendered.

9. **Advisory Committee.**

(a) The Association will establish an Advisory Committee composed of not less than three physicians, one of whom will be designated as Chairman. Names, addresses and titles of membership of this Committee and changes thereto will be made available to the Veterans Administration.

(b) The functions of the Committee will be to counsel, assist, and make recommendations to the Veterans Administration field station of jurisdiction on matters involving the furnishing of professional services to veterans. The Committee will consider and submit recommendations in those cases, among others, in which differences of medical opinion exist with regard to the type and/or extent of medical service rendered. In addition, the Committee will make recommendations in instances where the work of a participating physician has been found to be unsatisfactory by the Veterans Administration or evidence is presented that a physician has engaged in irregular or unethical practice.

(c) It is mutually understood that participating physicians may bring to the attention of the Committee any case which he believes that he has not received fair and equitable consideration by the Veterans Administration.

(d) When the Committee meets at the specific request of the Veterans Administration, members may be paid at an all inclusive rate not to exceed $50.00 per diem or fraction thereof. Payment to Committee members will be made by the Veterans Administration field station upon submission of a properly prepared invoice. Such payments are limited to three members unless otherwise approved by the Manager of the field station of jurisdiction.

10. **Effective Date.** This agreement becomes effective July 1, 1960, and will continue in force unless terminated by either party upon 30 days advance notification given in writing.

11. **Reimbursement.** It is mutually understood that the Association will require no payment for services rendered under this agreement.

Very truly yours,

_____, M.D.

_____

Title

_____

South Dakota State Medical Association

Approved and accepted by the
Veterans Administration
by _____

_____

Title

_____

(Name and Address or Field Station)

Dr. Sattler moved that the Letter of Agreement with the Veterans Administration be accepted by the Council and that the Medical Association enter into this agreement with the VA. The motion was seconded by Dr. Hohm and carried.

Mr. Foster explained the Memorandum of Understanding which has been requested by the Department of Health, Education, and Welfare for the Indian Area Health Office. Under this program the department would contract with specific doctors where Indians receive care, using the South Dakota relative value scale, assigning a different unit value to the various services utilized. Dr. Stoltz moved that the proposed Memorandum of Understanding, in its present form, not be accepted; but that it be amended so that the various categories of service are more equitable one to another and that the executive committee meet with the officers in charge of the Indian Service to renegotiate the agreement. The motion was seconded by Dr. Hayes and carried.

Dr. Sattler moved that the figure of 3.20 to the minimum figure to be arrived at in the negotiations, but the figure of 4.00 would be much more desirable. Dr. Davidson seconded the motion and it was carried. The Executive Office was instructed to inform the members of the Council on the outcome of the negotiations and that a mail vote should be taken of the Council before the agreement should be formally entered into.

Mr. Foster read the communications he has had with the Department of the Army concerning payment to physicians for Reserve physicals, as per instructions of the Council in May. No action taken.

Mr. Foster discussed the correspondence with the Bureau of Narcotics concerning the ambulatory treatment of non-medical addicts. Dr. Sattler moved that the South Dakota State Medical Association adopt the following resolution on this subject:

WHEREAS, the adequate treatment of narcotics addiction necessitates constant control in addition to its medical aspect and multiple facets of social and economic factors, and,

WHEREAS, the achievement of these objectives is often difficult of total attainment, even under the best regimen of therapy currently possible, and,

WHEREAS, experience has shown that treatment of narcotic addiction by means of various type of ambulatory clinic plans has been universally unsuccessful, impractical, and scientifically unsound for over 50 years, and,

WHEREAS, in all attempts of treatment of narcotic addiction by the ambulatory method, addiction has in fact increased, therefore,

BE IT RESOLVED that the South Dakota State Medical Association voice the opinion that the ambulatory clinic plan for treatment of narcotic addiction is inadequate and medically unsound, and

BE IT FURTHER RESOLVED that the South Dakota State Medical Association's delegates to the American Medical Association be instructed to oppose the development of any such ambulatory treatment plans, and support measures designed 1) to increase research in this field, 2) to develop realistic institutional care plans for addicts, 3) to advance methods and measures toward rehabilitation of the addict, and 4) to establish methods for the dissemination of factual information on narcotics addiction to the members of the medical profession.

Dr. Hayes seconded the motion and it was carried. Dr. Davidson moved that the Council on Mental Health of the American Medical Association be contacted to determine what AMA action has been taken on this subject. Dr. Sattler seconded the motion and it was carried.

Dr. Loren Amundson of Webster spoke briefly to the Council concerning the endorsement of the Council and support in the form of postage to the Medic-Alert program of amulets, bracelets, etc. showing allergies, diseases, etc. that could be used in medical emergencies when the patient is unable to talk. Dr. Sattler moved that the State Medical Association endorse the program and support it by contributing postage for not more than two mailings to physicians. The motion was seconded by Dr. Stoltz and carried.

Mr. Foster read and explained the resolution submitted to this Association by the Duval County Medical Society in Florida.

RESOLUTION

WHEREAS, fear exists that accreditation will be withdraw from certain Jacksonville hospitals unless all recommendations of the Joint Commission on Accreditation of Hospitals are fulfilled, and

WHEREAS, laboratory work should be considered a part of the practice of medicine, and

WHEREAS, competent doctors of medicine other than qualified clinical pathologists can do laboratory work and can adequately supervise the work of technicians, and

WHEREAS, duplication of laboratory work by hospitals unnecessarily increases the cost of medical care which is already high, and

WHEREAS, the assignment of patients to hospital laboratories as out-patients for laboratory work may entail long periods of waiting and increased anxiety, and

WHEREAS, the members of the Duval County Medical Society commend the purposes and principles usually proposed by the Joint Commission on Accreditation of Hospitals, but disagree strongly with this particular infringement on the practice of medicine,

BE IT THEREFORE RESOLVED, that the Duval County Medical Society go on record in opposition to the recommendation of the Joint Commission on Accreditation of Hospitals to the effect that, "only reports of clinical laboratory work done in laboratories supervised by qualified clinical pathologists should be accepted for hospital in-patients or out-patients. This should be the original report from the laboratory and properly authenticated, be placed in the patient's record."

BE IT FURTHER RESOLVED, that laboratory work attached to the clinical record by the responsible staff doctor be accepted at its face value, and

BE IT FURTHER RESOLVED, that safeguards be established and enforced against violations of the ethics and principles of this privilege, and

BE IT FURTHER RESOLVED, that the Joint Commission on Accreditation of Hospitals be informed of these recommendations and be requested to stop this trend toward the removal of authority for the patient care from individual doctors of medicine who have not infringed upon privileges granted them, and

BE IT FURTHER RESOLVED, that a copy of this resolution be sent to the Florida Medical Association with the request that it adopt similar action and instruct its Delegates to the American Medical Association to seek the adoption of like action by that body, and

BE IT FURTHER RESOLVED, that copies of this resolution be sent to each state medical association and to each county medical society in the State of Florida, and that they be urged to take similar action to safeguard the practice of medicine by doctors of medicine.

After a discussion on this matter, Dr. Stoltz moved that the Council of the South Dakota State Medical Association support the Duval County Medical Society resolution in principle; that we inform them of our support and also the appropriate department of the American Medical Association. The motion was seconded by Dr. McDonald and carried.

Mr. Wilbert Penberthy of the District Bureau of Narcotics office was introduced and spoke briefly on the narcotics problem in South Dakota. Dr. Sattler moved that the problem of mandatory hospitalization of narcotic addicts be referred to the Committee on Legislation to see what can be worked out and possible recommendations for legislation. The Committee should report at the January Council meeting. Dr. Davidson seconded the motion and it was carried.

The Council then considered the report of the Committee on Medical Economics. Mr. Robert Bowling of Continental Casualty Company was introduced and explained the proposed overhead expense group insurance program. Mr. Foster discussed the mechanics of setting up the program and how it would be operated. Dr. Sattler moved that the Council approve the recommendations of the Committee on Medical Economics and offer this overhead expense group insurance program to the membership of the State Association. Dr. Reding seconded the motion and it was carried. Dr. Stoltz moved that the loss-of-time insurance program be maintained with the Harold Diers Company. Dr. Brogdon seconded the motion and it was carried. Dr. Stoltz moved that the State Association should periodically review the enrollment in the Harold Diers plan to find out how many are covered with the thought that perhaps enough are enrolled to waive underwriting. The motion was seconded by Dr. McDonald and carried.

Mr. Foster discussed the proposed Association Investment Plan as submitted by the Jones Plans, Inc. Dr. Stoltz moved that the matter be referred to the Committee on Medical Economics for study and report. The motion was seconded by Dr. Wessman and carried.

The matter of budgeting money to reimburse committee members travel outside the State to national conferences was considered. Dr. Hohm moved that the matter should be referred to the Executive Committee for study, with the recommendation that they determine what the policy should be in the future and set up the mechanics for carrying out that policy. The Executive Committee should bring back their recommendations to the Council so the councilors can discuss the matter in their Districts. It is suggested that the Executive Committee send out their recommendations to the councilors prior to the next Council meeting. Dr. Reding seconded the motion and it was carried.

Dr. Brogdon moved that letters be sent to the two physicians who have submitted bills, as test cases, informing them that the matter has been referred to the Executive Committee for consideration and when the policy is determined, the bills will be considered. Dr. Hohm seconded the motion and it was carried.

The Council considered the request from **Post Graduate Medicine** for a nomination of a deceased physician in South Dakota who was outstanding in medical history. The names of Dr. Jaynes, Dr. Spafford, and Dr. Ohlmacher were suggested. Dr. Sattler moved that the letter be referred to the Executive Committee for action and selection of a nominee. The motion was seconded by Dr. Sweet and carried.

Mr. Foster explained the printing of the poison information card that will be distributed in southeastern South Dakota by the Girl Scouts. There is a supply in the executive office for distribution also.

The selection of the General Practitioner of the Year for South Dakota was considered. Dr. Tank moved that Dr. Alonzo P. Peeke be selected as South Dakota's General Practitioner of the Year. Dr. Reding seconded the motion and it was carried.

The Council considered the recommendations of the Committee on Legislation.

RECOMMENDATIONS OF THE COMMITTEE ON LEGISLATION TO THE COUNCIL

1. SOUTH DAKOTA BOARD OF MEDICAL AND OSTEOPATHIC EXAMINERS —
   The Legislative Committee moved to request the Legislature to increase examination fees to $40.00 and reciprocity fees to $90.00. Your Committee recommends that our Association support this bill. Dr. Davidson moved that this recommendation be accepted. Dr. Sattler seconded the motion and it was carried.

2. HOSPITAL PRACTICE OF MEDICINE —
This item was presented by the South Dakota Board of Medical and Osteopathic examiners. The Committee on Legislation moved to bring this matter to the attention of the Council for their consideration with the recommendation that the Association obtain advice as to the limitations of the present law. It was also recommended that such legal determination be made as to how local societies might govern such cases. The committee suggested that no action be taken. Dr. Brogdon moved that the recommendation be accepted and that before the next meeting, legal advice be obtained; that the matter be reported to the Council in January. Dr. Sattler seconded the motion and it was carried.
3. AMENDED DEATH CERTIFICATES —
This has been approved by the Yankton District Medical Society. The Committee wishes to bring this to the attention of the Council with the advantages and disadvantages; and the Committee recommends to the Council that no action be taken at this time. Dr. Stoltz moved to approve the Committee recommendation. Dr. Davidson seconded the motion and it was carried.
4. DISCONTINUANCE OF PRE-MARITAL BLOOD TESTING —
This was presented by the Black Hills District Medical Society. The Committee reports this legislation without recommendation. Dr. Sattler moved the acceptance of this report. Dr. Davidson seconded the motion and it was carried.
5. IMPLIED CONSENT LAW —
The Committee on Legislation recommends to the Council continued support in principle of the Implied Consent Law.
6. CORONER'S LAW —
The Committee recommends repetition of the 1958 recommendation, which is — "It was the feeling of the Committee that the Coroner's Bill previously introduced met with severe opposition because of its complex nature and the same would happen if introduced again. The Association should support any bill which will improve the present Coroner's Law and cooperate with the Judicial Council of the Bar Association in promulgating such legislation.
7. INDIGENT CARE —
The Committee recommends repetition of the 1958 recommendation which is, "The Association recommends support for an appropriation to implement the enabling legislation which was passed at the legislative session two years ago.

   Dr. Stoltz moved that inasmuch as items 5, 6, and 7 reiterate action of the Council in the past, these items be accepted as reported. The motion was seconded by Dr. Sweet and carried.
8. MENTAL HEALTH —
The Committee felt that lack of information regarding proposals by the Mental Health Committee made it impossible for the Committee to recommend any action at this time. Dr. Sattler moved that this report be accepted. Dr. Brogdon seconded the motion and it was carried.
9. EDUCATIONAL MATERIAL ON SOCIALISM —

   The Committee requests the Council to authorize the executive office to print up educational material on socialism and that this information be sent to every doctor in the State. Dr. Stoltz moved that the Council accept this recommendation in principle, with final approval of the wording to be utilized to be given by this body in January. The motion was seconded by Dr. Sweet and carried.
10. REMOVAL OF RESIDENCE RESTRICTIONS AT SANATOR —

    The Board of Charities and Corrections has asked for legislation that would remove the residency requirements for admittance to Sanator for tuberculosis. They also feel the need of a commitment law with a retainer feature which would keep patients in the sanatorium until adjudged to be inactive. Dr. Stoltz moved that this matter be referred to the Committee on Legislation for study and report back to the Council in January. The motion was seconded by Dr. Buchanan and carried.

Dr. Stoltz read two communications that were received by him as a result of his letter to the membership concerning insurance charges. He read a letter from Dr. H. Russell Brown expressing his appreciation for the action of the House of Delegates in commending him for his work on behalf of organized medicine. He also read a letter from Dr. F. J. L. Blasingame expressing appreciation for Mr. Foster's work on the Public Relations Advisory Committee, and another from Dr. Blasingame thanking the State Association staff for their efforts in defeating Forand-type legislation. Dr. Stoltz read a letter from the State Department of Health concerning a study of cardiovascular-renal diseased deaths. He read a letter from the Georgia Medical Association concerning closing of physicians' offices for a period on election day. It was suggested that all physicians urge their employees to vote in November.

Dr. Bailey spoke on the Basic Science law in South Dakota. He suggested that the Basic Science law makes it very difficult for specialists, after several years out of medical school, to become licensed in this State. He felt that some study of the Basic Science law should be made to see if reciprocity can be increased with other states or if some other means can be found that would not make licensure so difficult for these well trained men. Dr. Bailey moved that this matter be referred to the Committee on Medical Licensure for study and report. Dr. Wessman seconded the motion and it was carried.

Dr. Stransky discussed the resolution passed at the Medical-Legal Conference concerning a malpractice panel. Dr. Stoltz moved that the State Medical Association support the idea and refer it to the Medical-Legal Committee for recommendation. The motion was seconded by Dr. McDonald and carried.

The meeting adjourned on motion at 4:00 P.M.



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Wishful thinking doesn't accomplish much, but thinkful Wishing does.

SCHOLARSHIPS SET AT USD

A new scholarship program for South Dakota students interested in the study of medicine has been established at the State University of South Dakota School of Medicine as announced by Dean W. L. Hard. The first scholarships will be awarded for the 1961-62 school year.

Candidates for the scholarships will be drawn from high school seniors who are particularly well qualified academically but whose financial resources may be such as to prevent or discourage their intent to study medicine.

The scholarships in the amount of $500 each will apply to each of the first three years of premedical instruction and two years at the medical school. The scholarships will be awarded on an annual basis but will be renewable subject to the reevaluation of the student's progress and need.

Funds for the scholarship awards have been made available through contributions from the National Fund for Medical Education, a philanthropic agency that has solicited contributions from industry and business concerns in support of financing medical education. In addition, supplementary funds may be made available by contributions from South Dakota physicians, University alumni and friends of the medical school.

In commenting upon the need for such a scholarship program, Dean Hard pointed out that it is generally recognized that the student's interest in following a medical career starts rather early in his life and in particular during the high school years. In recent years there has been a considerable reduction on a national basis in the number of qualified students applying to medical schools. It is quite clear that one of the major factors as a deterrent to the interest of the young student is the high cost to the student for medical education and the number of years involved.

Dean Hard said it is hoped that the high school senior in South Dakota will recognize the interests of the medical school in attempting to further the student's opportunity for medical study. Dean Hard also expressed the hope that this scholarship program may retain within the state the exceptionally well qualified stu-

dents who are attracted to other institutions through the availability of scholarships elsewhere.

The number of medical scholarships to be awarded each year will depend on the number of qualified applicants and the availability of funds. It is possible that as many as five or six may be awarded each year, Dean Hard said.

A committe of medical faculty who developed the general plan for the program included Drs. A. D. Larson, Chairman, W. O. Read, F. M. Foltz, and L. C. Smith. Students interested in making application for these scholarships may secure the necessary information from the Office of the Dean, School of Medicine, State University of South Dakota, Vermillion.

TB CONFERENCE HELD IN PIERRE

The "Little Arden House" Conference on Tuberculosis Control was held in Pierre on Thursday, September 29th.

The program featured presentations by State Health Officers, Dr. G. J. Van Heuvelen; Dr. Harry Allen, U.S.P.H.S.; Alice Brady, R.N., State Department of Health; Dr. John C. Hagin, Board of Charities and Corrections; Dr. Carleton White, Sioux Sanitarium, Dr. W. L. Meyer, Sanator.

Most of the afternoon session was spent in discussion of proposed recommendations. Dr. J. A. Muggly and John C. Foster represented the state medical association at the session.

CHEST PHYSICIANS TO MEET IN D. C.

The American College of Chest Physicians will hold its annual Interim Session at the Shoreham Hotel in Washington, D. C. this November. The scientific sessions will be held on Saturday and Sunday, November 26 and 27. Monday, November 28, will be reserved for administrative sessions.

Dr. Joseph W. Peabody, Jr., Washington, D. C., and his committee, have arranged a scientific program of exceptional interest including Symposia on Congenital Bronchopulmonary Disorders, The Role of Steroid Therapy in Chest Diseases, and Current Therapeutic Issues.

A highlight of the program will be the Fireside Conferences on Sunday evening, November 27. In addition, there will be three round table luncheon discussions on both Saturday and on Sunday. These will feature prominent speakers discussing various aspects of heart and lung diseases.

NEW ORLEANS GRADUATE MEDICAL ASSEMBLY

The twenty-fourth annual meeting of the New Orleans Graduate Medical Assembly will be held March 6-9, 1961, headquarters at The Roosevelt Hotel.

Following the New Orleans meeting there will be a clinical tour to the Orient.

For further information write to: Mrs. Irma Sherwood, Room 103, 1430 Tulane Avenue, New Orleans, La.

NEWS NOTES

The South Dakota Society of Internal Medicine met in Vermillion in October and elected **Dr. Donn Driver,** Sioux Falls, vice-president; and **Dr. E. W. Sanderson,** Sioux Falls, secretary-treasurer.

* * *

C. M. Kerschner, M.D., was honored recently for twenty years of service in the Watson Clinic of Brookings.

* * *

Marion, S. D. conducted an open house appreciation day for **Dr. A. P. Reding,** honoring his twenty-five years of practice in that community. Dr. Reding is secretary-treasurer of the State Medical Association.

* * *

The State Supreme Court has upheld a Grant County Circuit Court decision which enjoined Ellis Hoyme from engaging in a healing art which he called "Reflexology."

* * *

C. B. McVay, M.D., Yankton, participated in a closed panel discussion during the American College of Surgeons meetings in San Francisco in October.

* * *

Dr. J. L. Chassell, Belle Fourche, celebrated his 89th birthday early in September. Still in part-time practice, **Dr. Chassell** has completed 54 years of service in Belle Fourche.

* * *

Dr. Lloyd Ralston, formerly of Grand Forks, N. D., has joined the staff of the Aberdeen Medical Center. Dr. Ralston practices internal medicine.

The South Dakota Mental Health Association met in Rapid City, October 14-15. Featured on the program was a panel made up of **Dr. Roy Knowles,** Sioux Falls; **Dr. James A. Gilbert,** Aberdeen; **Dr. Robert S. Jones,** Rapid City; and moderated by **Dr. G. S. Paulson,** Rapid City.

* * *

Dr. and **Mrs. H. O. Kittelson** and **Dr.** and **Mrs. D. H. Manning,** Sioux Falls, spent three weeks in Hawaii combining business and pleasure.

* * *

Dr. R. H. Quinn, Sioux Falls, was elected into membership of the American College of Surgeons at their meeting in San Francisco recently.

The American College of Surgeons are making plans to build a new office building in Chicago. The members will be assessed $200.00 each.

* * *

John C. Foster and **Phyllis Sundstrom** represented South Dakota Blue Shield at the annual Blue Shield sessions in Chicago recently. Foster was Chairman of the first morning's program introducing Secretary of Health, Education and Welfare, Arthur Flemming; Dr. Norman Welch, Speaker of the House of Delegates of the A.M.A. and Dr. J. A. Daugherty, President of the National Blue Shield.

John C. Foster spoke at the Third Regional State Medical Journal Conference in Lexington, Kentucky Oct. 15th.

* * *

Dr. N. J. Hastetter, Edgemont, recently married. His bride was formerly from Germany. The community of Edgemont honored the doctor and his bride at a public reception.

* * *

Dr. Rudolph Orgusaar, Woonsocket, has announced that he will leave this community by December 1.

The Executive Secretary of the South Dakota State Medical Association was rushed to the emergency room of a

ANNUAL CLINICAL CONFERENCE

CHICAGO MEDICAL SOCIETY

February 28, March 1, 2 and 3, 1961

Palmer House, Chicago

Daily Half-Hour Lectures by Outstanding Teachers and Speakers on subjects of interest to both general practitioner and specialist.

Panels on Timely Topics — Teaching Demonstrations

Medical Color Telecasts — Instructional Courses

Scientific Exhibits worthy of real study and helpful and time-saving Technical Exhibits.

The Chicago Medical Society Annual Clinical Conference should be a MUST on the calendar of every physician. Plan now to attend and make your reservation at the Palmer House.

local hospital recently. He made the mistake of re-lighting the pilot light in the new Association office. He received 2nd degree burns on his hands and wrists. Developed a little shortness of hair.

* * *

The Blue Shield Department recently put into effect a new ‡632 model of IBM equipment. The new equipment will speed up payments to physicians and will handle future increases in volume.

The Medical Legal Conference, which was held in Sioux Falls September 24 and 25 was well attended. 148 physicians and attorneys registered — 98 attorneys and 50 physicians.

The cocktail party and buffet dinner was served at the Medical Association building prior to the Augustana-University game. 250 people were crowded into the building.

WHETSTONE VALLEY DISTRICT MEETS

The Whetstone Valley District Medical Society met in Sisseton on October 14th. Twelve members heard association president C. Rodney Stoltz, M.D. speak on Association matters. J. D. McGreevey and executive secretary Foster discussed office overhead expense insurance.

A film "Grand Rounds" was the scientific portion of the program.

TB AND HEALTH MEETS IN OCTOBER

The South Dakota TB and Health Association met in Pierre, October 16 and 17, to consider problems in the field of tuberculosis. Appearing on the program were Bernard T. Lenz, M.D., a member of the Committee on Tuberculosis of the South Dakota State Medical Association, and Dr. W. L. Meyer, superintendent of the TB Sanatarium, along with others who discussed the problems as they appear to exist in South Dakota today.

GOVERNOR'S GROUP MAKES RECOMMENDATIONS ON AGING HEALH

The Governor's Committee on Aging headed by Judge Fred Nichol of Mitchell, among its many recommendations, will take the following to the President's Conference on Aging in Washington in January.

1. A continuing State Committee on Aging undertake to implement a public information program designed to encourage individuals to prepare for their financial security in old age.
2. Congress consider the liberalization of the $1200 earnings limit the beneficiaries of Social Security.
3. Voluntary health insurance programs for the aged, including provision for paid up coverage at age 65, be expanded and promoted.
4. The present public assistance mechanism be utilized in developing a broadened Statewide program of care for the "needy" and "Near-needy."
5. A program providing for the medical care expenses of the "needy" and the "near-needy," or the "Medically indigent," be developed at that level of government which will assure uniformity of application of health and welfare benefits, and remove possible inadequacies arising from inter-county legal restrictions.

U.S.D. MED SCHOOL NAMES STAFF

The appointment of Dr. George W. Knabe, Jr. to be a position of professor and chairman of the department of pathology at the State University of South Dakota School of Medicine was announced recently. Dr. Knabe is filling the position made vacant by Dr. Amos C. Michael, who was granted a leave of absence to participate in a teaching program at the University of Pakistan in Karachi.

Dr. Knabe is a native of Michigan and completed his undergraduate work at Michigan State College and Johns Hopkins University and received his M.D. from the University of Maryland in 1949. Following his internship, Dr. Knabe completed residency work in pathology at the Cleveland Clinic and the Henry Ford Hospital in Detroit. He is certified by the American Board of Pathology in both pathological anatomy and clinical pathology. Dr. Knabe has served as a medical education adviser in pathology to the International Cooperation Administration under the State Department and most recently has been teaching

pathology at the University of Puerto Rico School of Medicine in San Juan and served as Chief of the Clinical Laboratory at the University Hospital there.

Joseph N. Spencer, Ph.D. has been appointed as Associate Professor of Pharmacology in the Department of Physiology and Pharmacology. Dr. Spencer is a native of Washington and received his undergraduate work and M.S. degree at the University of Washington and the Ph.D. degree from the University of Colorado. He is a member of several scientific organizations and has contributed some 25 applications to the scientific literature. Dr. Spencer served in the teaching departments at the University of Washington and at the University of Colorado and was a member of the United States Air Force from 1942 to 1946. More recently he was senior pharmacologist at Smith, Kline & French Laboratories in Philadelphia.

Arnold L. Pritschow, Ph.D. has been appointed as Assistant Professor in Pharmacology. Dr. Pritschow is a native of Oklahoma and received both his undergraduate training as well as his M.S. and Ph.D. in Pharmacology at the University of Oklahoma School of Medicine. For the past two years he has served as a postgraduate fellow in pharmacology at the same institution. Dr. Pritschow's specialty training has been in the field of toxicology and related subjects.

TOP SCIENTIFIC PROGRAM PLANNED FOR MDs AT AMA CLINICAL MEETING

The 14th clinical meeting of the American Medical Association in Washington, November 28-December 1, will offer a well-rounded, stimulating scientific program designed to interest both family physicians and specialists. The symposia, presentations, and discussions will stress the theme, "New Developments in Old Diseases and Old Developments in New Diseases."

Participants will include proponents of both sides where different views exist on the management of a disease or medical condition. For example, should tonsils be removed when mildly involved or only when they are badly diseased?

The patient's side will also be heard on one symposium. Clarence B. Randall, an industrialist and special assistant to President Eisenhower, will talk on coronary disease from the patient's viewpoint.

All the scientific sessions will be held at the District of Columbia National Guard Armory. Starting at 9:30 a.m., Monday, November 28, and running until 11:30 a.m., Thursday, December 1, three sections in both morning and afternoon will be held simultaneously in separate rooms at the Armory. One section will be devoted to presentations of formal papers, another to panel discussions, and the third will be a symposium, all of which have question-and-answer periods.

Another important and integral part of the clinical meeting will be the Scientific Exhibit which will contain approximately 125 exhibits in the Armory. Many of these will relate to such specific subjects as cardiovascular conditions, arthritis and rheumatism, and cancer. Others will be grouped into rather broad areas such as neurology and psychiatry, pediatrics, orthopedics, dermatology, drug therapy, surgery, ophthalmology and otolaryngology, obstetrics and gynecology, and laborator and clinical investigation. Special demonstration exhibits on Fractures and Problems in Deilvery will also be included.

NEWS NOTES

Yankton Senior High School has formed a "Future Medics" organization. Some 25 students interested in various Careers in the Medical profession make up the membership. **Dr. Kenneth Dregseth** is professional sponsor of the group.

* * *

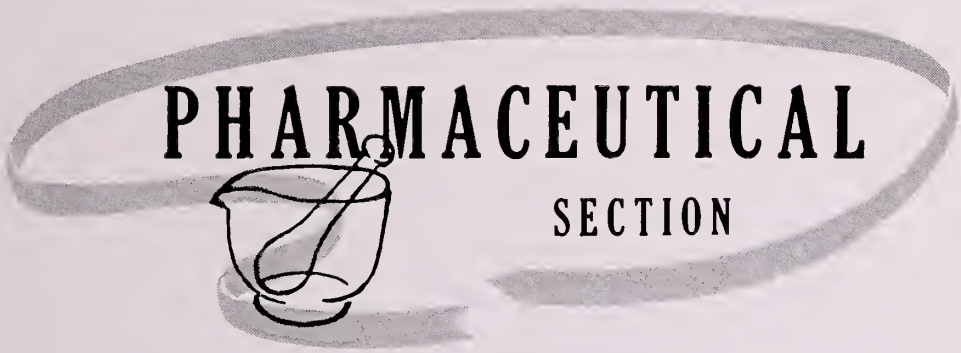
Dr. F. J. Abts of Yankton has returned to that city after a years absence, during which he made three around-the-world voyages as ship's surgeon abroad the SS President Polk of the American President's Lines.

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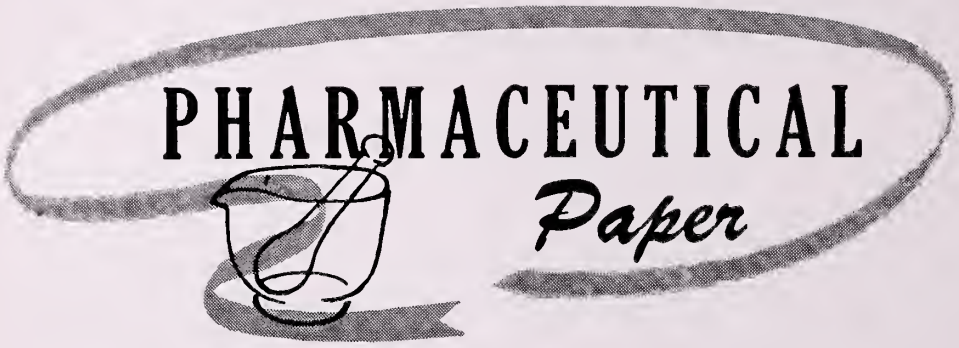
Dr. Julius Ehik formerly of Centerville, has left the State to take a residency in psychiatry. He will take his training in St. Louis, Missouri.

* * *

Dr. John S. Burleigh, Sioux Falls, was recently married to Miss Marion Knudson.



HAROLD S. BAILEY, PH.D.
EDITOR
Division of Pharmacy
South Dakota State College
Brookings, South Dakota



"HEALTH AND PUBLIC OPINION"

by
Helen Creighton, R.N., J.D.*
LaFayette, Louisiana

At the outset some definition of terms may be helpful. Health may be said to be the perfect structure of all the organs and tissues of the body with a perfect performance of all their functions. In a broad sense, any alteration of their structure or function may be called disease. However, to consider man's health merely from a physiological viewpoint is inadequate and untenable. As the great Sir William Osler observed more than a half century ago, when we consider a man's health we do not mean a human being in his physiological condition, rather the picture is that of an individual, John Jones — a man with his joys and sorrows, his hopes and fears; a man in relation to his family, his home, his work, his Creator, his friends and his recreation. To a greater or lesser extent, each of these factors influence a man's living and affect his health either in a positive or negative manner.

Public opinion, in a democracy such as ours, may be said to be the sum total of the verbal and written expression of the thinking, reaction, interaction, and manifestation of the driving forces (some consciously recognized and other unconsciously evidenced) in "we the people" through varying mediums such as oral expression—individual or group, newspapers, periodicals, radio, television, etc. Our Government guaranteeing, as it does, freedom of speech, press, worship and assembly is conductive to the individual's self expression within our territorial limits. Even at an international level such agreements as the Atlantic Charter incorporate the four freedoms. At law, we insist: "every man is entitled to his day in court"; unless he receives the same, he may not be convicted of a crime nor a civil suit decided for or against him.

Our tradition has been thus expressed: "I may not agree with what you say, but I will defend your right to say it." With these basic concepts defined, we may proceed to some of our current health problems and related public opinion.

Tension, Speed and Noise

Our age has been referred to, among other things, as the Atomic Era: man has not only

*Associate Professor of Nursing, University of Southwestern Louisiana.

split the atom but has learned to utilize atomic energy in many ways: some destructive such as nuclear warheads and IBM's; other uses of atomic energy are peaceful — such as the powering of ships for travel, furnishing electricity for major cities and areas of making stock piles of radioactive isotopes for the diagnosis and treatment of disease. We are on the verge of outer space exploration; it is no longer a question of whether man will reach another planet, but rather when and will he be able to get safely back to earth. Great as are these and related developments, they have increased **tension** both individual and world wide. Simultaneously we are proud of our discoveries and afraid of them, and this is with some justification.

Ours, too, is an age of **speed** — aircraft may now fly at speeds in excess of sound. But what affects John Jones even more is the hurry and scurry of daily living: we must do things in a hurry, i.e., "immediately if not sooner"; we must move quickly: "on the double"; we must dash here and there in cars at ever increasing horsepower. To be "successful" we must work rapidly, think quickly, play fast, sleep in a hurry — in everything: speed.

Again, ours is an age of **noise;** our machines are noisy: engines, compressed air drills, riveting machines, and similar equipment. In our homes the vacuum cleaner, the refrigerator, and other home appliances, not to mention the radio and television, make verying noises. It's an age of "rock and roll" — a vigorous, noisy age.

The impact of all this tension, speed and noise is felt on man's nervous system. The same nervous system that serves the idyllic south sea islander with few complaints must withstand the multiple stresses of modern American society. The physiologic consequences are numerous — that our high rate of nervous and mental disorders is related thereto seems quite possible, though how and to what extent is a subject of much discussion. We know that on the average one out of ten Americans may expect some type of mental illness at some period in his life.

The Age of Tranquilizers

Public opinion has changed considerably in its attitude toward mental illness in recent years. From Mr. Beer's, "The Mind that Found Itself," we have gone a long way in securing not only more humane treatment but a therapeutic and rehabilitative approach. We have established Mental Health Clinics far and wide, and in many instances, are treating patients in general as well as special hospitals. Much of the impetus for this change has come from a better educated public opinion. Today public opinions is in the process of accepting mental illness, as it does most illnesses, without the stigma of a bygone era and with a realistic hope that much of it readily responds to therapy.

Ours has been referred to as an age of tranquilizers — consider the millions, and a few of the individuals are persons you know, who are on thorazine, Stelazine, Ultran, Miltown or similar medication. Having exceeded our physiologic limits, or at least our ability to satisfactorily live with stress, we turn to "pills" to restore a bit of peace to daily living. The merits of such tranquilizers and their widespread use are the subject of much discussion: some swear by them, others swear at them. That they are a part of many daily lives is about the one thing on which public opinion does agree.

Associated with our speed, noise and tension are a number of ther physiologic ills: such as sleeplessness and ulcers. Whether a sleeping pill such as nembutal, seconal, Doriden or phenobarbital is the answer to "I can't sleep!"; or whether man needs a change of pace in living or a clearer conscience — all these and many other remedies which have been suggested, are matters concerning which public opinion has no clear answer but it has taken notice of the problem. The successful American business man has been, at times, referred to as a likely candidate. Public opinion has tended to stress financial success — business and professional, the acquisition of material possessions — rambler homes, new cars, color television, mink stoles and many other items. It has emphasized a superficial social success: "we must keep up with the Joneses." Such public figures as Mrs. Eleanor Roosevelt have raised the question as to the psychological trauma to a child whose parents don't have television and his classmates do have access to television. Public opinion is in ferment as to the

value or lack thereof of such "success," but members of the medical team can assure you a lot of it is washed down with quantities of Maalox and Amphojel to quiet ulcers.

The relation, in some measure, of speed, noise, and tension to accidents, the 5th leading cause of death in the United States, is a subject of public discussion. Whether it is tension that makes people accident prone is the subject of some research. On all major holidays, the public is reminded of automobile accidents — drive carefully. It enters into our advertising: "Drive with care, use Sinclair!"

Considering that hearing impediments are the second leading cause of chronic illness, the relationship of excessive noise already the subject of investigation, needs more study. There are 15 million people with some hearing problem. Popularizing the wearing of hearing aids by those who would benefit thereby is virgin territory for the missionary zeal of a better informed and enlightened public opinion. The wearing of hearing aids needs to be popularized and given the whole hearted stamp of public approval.

The "new glasses to hear with, i.e., hearing aids concealed in glasses are the first noticeable effort toward achieving some measure of appearance acceptability. In addition, the public needs to understand the hearing aid: its competency and its limitation, how to tune it and most of all that learning to use one effectively and efficiently is something of a learned art which may be acquired. Roughly learning to use a hearing aid is a six-weeks program of planned effort and practice which does pay dividends in improved hearing.

Few discussions of health are complete without mention of geriatrics. From an average life expectancy of about 50 years in 1900 and the early decades of the century, we have increased the life span to some 70 years in the United States. In our country control of communicable disease and infection has contributed to this end. In 1900 tuberculosis, pneumonia, and diarrhea and inflammatory diseases were the three leading causes of death with diseases of infancy and malformation the fifth cause. Immunization, sanitation programs and public education supported by public opinion have changed the picture remarkably.

Confusion and Misplaced Emphasis

Today, if you are not killed meanwhile by accident, the chances are two out of three that you will die either of heart disease or cancer — the two dengerative diseases that are now far and away the big killers of Americans.[1] The older you grow the more likely you are to die of one or the other. The danger signals of cancer, heart disease and stroke have been to some extent popularly disseminated in recent years. The work of the American Heart Association and American Cancer Society has been most helpful in bringing facts to the public forum. The numerous pseudo-medical articles in popular magazines such as **Reader's Digest**, the **Ladies Home Journal**, **Life**, etc., and the Sunday supplement of newspapers have increased our awareness of problems and possibilities; but the emphasis on the exceptional and dramatic has often confused the public as to the general state of affairs. In some instances "a little knowledge is a dangerous thing": patients and families having read of some dramatic account, attempt diagnosis and the prescribing of treatments and in so doing usurp the work of the highly trained physician and limit his usefulness.

Misplaced emphasis, too, is a disservice. "Stroke" is the fourth leading cause of death in the United States. Yet, how many are familiar with the work of Dr. Howard Rusk and his colleagues as compared with operations for "blue babies" — dramatic but infrequent condition? How many 1) know and 2) are prepared to assist with the repeatedly demonstrated program of Dr. Rusk whereby 90% of all stroke victims who survive are restored to full independence in activities of daily living? That is actual — not pseudo-medical material that may easily touch our lives. Moreover, of the remaining 10% of stroke victims, most of them require only minor assistance in activities of daily living if people are properly rehabilitated.

More of the authentic and important health material needs to be published in ordinary periodicals and not only in professional journals. Helpful suggestions include 1) Authorities in their respective fields should give more thought to semipopular writing. 2)

1. Schifferers, Justus J.: **Healthier Living**, N. Y., 1960, p. 229.

"Hack writers" and journalists should refrain from writing on topics on which they are not informed or they should clear material for accuracy with recognized authorities. 3) The public should be more critical in reading health material, i.e., consider **who** wrote the material and the likelihood of its being accurate.

Fads and Fancies

In conjunction with any discussion of health some mention must be made of "fads and fancies." A good example might be dieting. How many people are ever satisfied with their own weight? Nearly everyone would like to add or take off a few pounds. A young woman is usually interested in losing weight to improve or keep her figure. Many men want to gain weight to step up their physical or athletic prowess. Older people strive to keep their weight down for "reasons of health" — to help resist the degenerative diseases.

Within limits one can control his weight. Done according to a physician's order or simply eating smaller portions of a well-balanced meal is safe — but not too popular. Reducing pills are a million dollar annual racket and, apart from money, may be harmful and are quite generally ineffective. Diets such as "six hard boiled eggs and lettuce" in addition to monotony lack essential vitamins and minerals. "Bee royal jelly" — much advertised, is expensively ineffective. Public opinion needs to expose quacks, cults and fads to a greater extent. Worth reading are **How to Lie with Statistics** by Darrell Huff (N. Y., Morton, 1954), and **Devils, Drugs and Doctors** by Howard W. Haggard (N. Y., Harper, 1929).

Social Illness

So far the discussion has centered around physiological and mental health, but some attention should be given evidences of social illness. When one out of three marriages ends in a divorce court, we have something more than physiology to consider. The forum of public opinion has aired a variety of reasons, rationalizations and suggestions; yet, it remains with an unsatisfactory answer. Many schools and churches have offered courses in Marriage and the Family, Education for Family Living, Cana Conferences, etc., efforts to solve in certain ways some of the contributing factors.

Juvenile deliquency, too, is a matter of considerable public concern. That it is a manifestation of social ill health — individual, family, and community-wise is not disputed. Public opinion has aired the causes and attempted curbs. That Boys Clubs, better recreation facilities, etc., in a measure help some individuals is true; that social case workers, probation officers and family counseling services help others is also true.

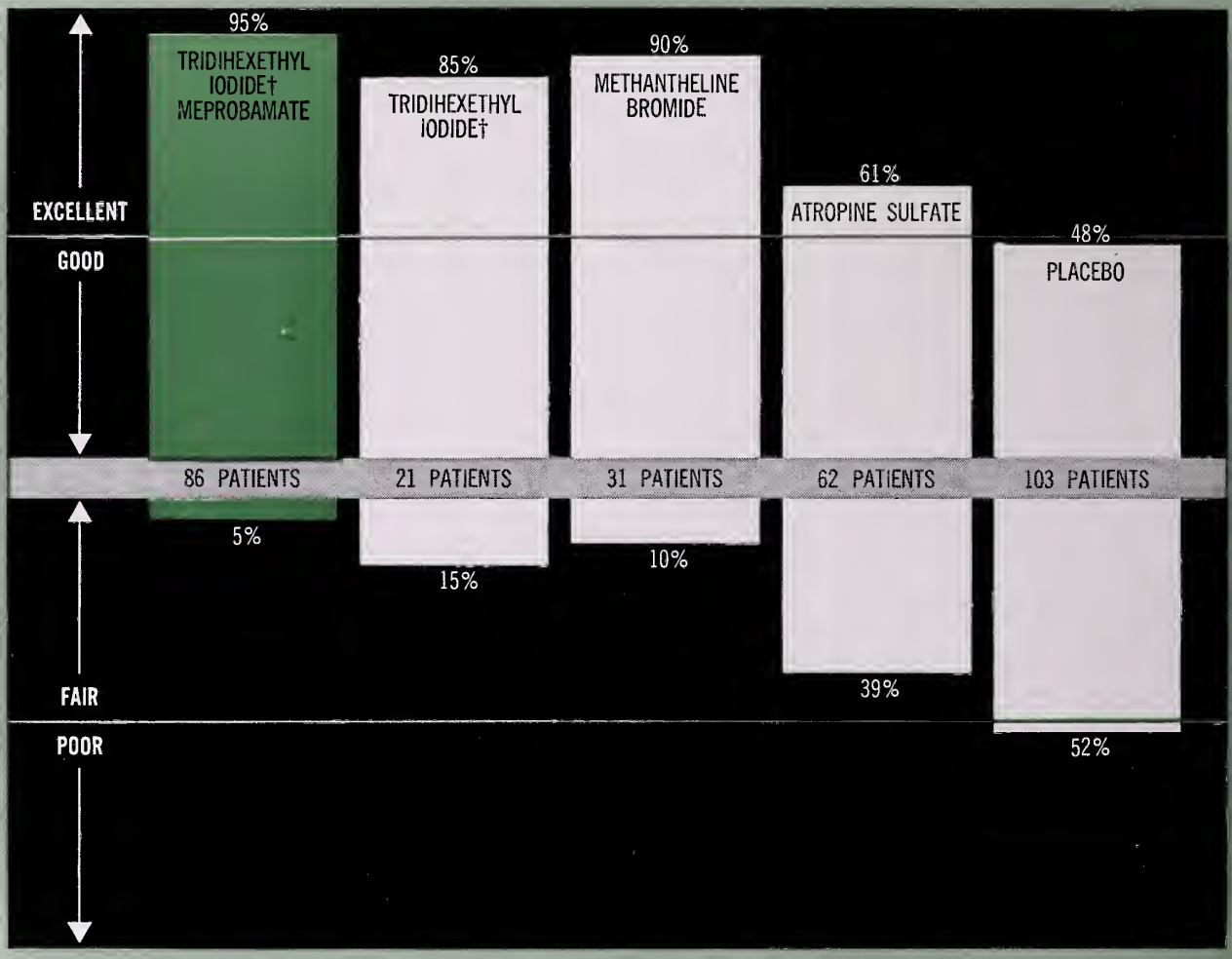
Alcoholism might be referred to as another illness with both physiological, psychological and social components. Public opinion in many areas favors "social drinking"; drunkenness remains a health problem. Public opinion in our generation both led to the legislation of Prohibition and ultimately to its repeal. Alcoholics Anonymous have done effective work with a number of people.

The abortion problem, however regretable mention thereof may be, is realistically a problem. The latest Kinsey figures show that among American wives 17% of pregnancies end in induced abortion. It is the conscensus of opinion in the United States today that a criminal, induced abortion is the worst way out of an "unwanted pregnancy."

The positive relationship of meaningful religious convictions to both physical and mental health is not merely an opinion of various churches and synigogues, but has a very substantial backing in public opinion. In the realm of marriage and management of sex, the ancient religious codes are still the prime sources of attitudes, the ideas, the ideals and the rationalzations by which most individuals pattern their lives. In periods of stress, members of the health team have repeatedly observed what religion can contribute to stability and tranquility. While public opinion staunchly opposes any union of church and state and has vigorously opposed the use of tax funds and released time at school for religious purposes, much public opinion vigorously supports and advocates religion as a part of balanced normal living. The religious revival of the 1950's, affecting as it did the various denominations in our country, is some indicia of public response to this facet of health.

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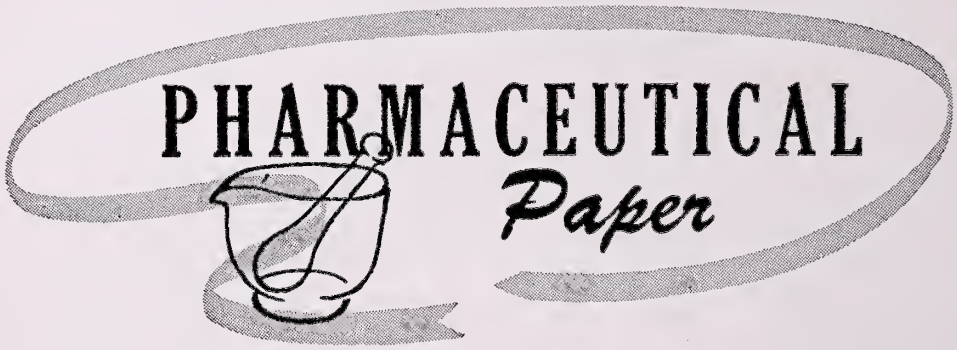
SIDE EFFECTS	TRIDIHEXETHYL IODIDE† MEPROBAMATE	TRIDIHEXETHYL IODIDE†	METHANTHELINE BROMIDE	ATROPINE SULFATE	PLACEBO
DRY MOUTH	1%	5%	72%	46%	5%
STOMATITIS	1%	0%	28%	14%	0%
VISUAL DISTURBANCES	0%	0%	50%	34%	1%
URINARY RETENTION	0%	0%	18%	11%	1%
DROWSINESS	20%	0%	0%	0%	0%
COMPLICATIONS OR SURGERY					
HEMORRHAGE	0%	9%	3%	9%	10%
PERFORATION	0%	0%	0%	6%	0%
OPERATION	0%	5%	5%	14%	2%
RECURRENCES					
NONE	28%	23%	25%	17%	26%
FEWER AND MILDER	67%	62%	52%	37%	24%
SAME OR MORE	5%	15%	23%	46%	50%

*Atwater, J. S., and Carson, J. M.: Therapeutic Principles in Management of Peptic Ulcer. **Am. J. Digest. Dis.** 4:1055 (Dec.) 1959.

†PATHILON is now supplied as tridihexethyl chloride instead of the iodide, an advantage permitting wider use, since the latter could distort the results of certain thyroid function tests.

Lederle LEDERLE LABORATORIES, A Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

control the tension — treat the trauma



CUT-RATE DRUGS BY MAIL: ARE THEY SAFE?*

In a time when widespread public attention has been focused on the cost of drugs, thousands of persons each day are using a comparatively new way to have their pharmaceutical prescriptions filled. They send them to MAIL-ORDER pharmacies to take advantage of advertised price discounts of 25 to 50 percent.

Such pharmacies have existed for several years, mostly on a local or regional basis. But in the past few months, perhaps spurred by the Senate hearings on drug prices, the mail-order prescription business has greatly increased. New companies are entering the field; established ones are expanding. With this growth have come charges by responsible pharmaceutical and druggist groups, supported by organized medicine, that filling prescriptions in such a manner is dangerous.

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Basically, these groups maintain:

There are substantial health hazards in these operations. They are not in the best interest of either the patient or the community. Appropriate federal and state action is needed to ban them.

Faced with such grave charges, the mail-order pharmacies have answered:

Our plans are completely safe for the consumer — as safe as using your neighborhood drugstore. The opposition to us is based strictly on economics because we are obviously taking business from local drugstores and pharmacies.

In an attempt to report objectively on these prescription services, GOOD HOUSEKEEPING interviewed leading spokesmen for pharmaceutical and drug groups, operators of mail-order pharmacies, interested state and federal officials, and individual physicians. The opinions of the American Medical Association and state boards of pharmacy were solicited. And the premises of some mail-order services were inspected by our reporters. Here is what our investigation disclosed:

How The Plans Operate

The mechanics are simple. You send in a prescription; it is filled and sent to you by first-class mail. Some plans require that money accompany the prescription. Others bill you at the time the prescription is filled. A few require a small annual membership fee — usually about $2. In addition to prescription drugs, these discount services usually sell vitamins, proprietary drugs, bathroom supplies, etc. (In areas where fair-trade laws — legislation requiring retailers to sell merchandise at manufacturer-set prices — are in force, mail-order discounts do tend to average about 25 percent. In other areas, such discounts may be matched by some retail stores.)

Who Runs Them

Some are sponsored by nonprofit organizations, and are ostensibly limited only to their membership. Among these are the Retired Persons Pharmacy of Washington, D. C., operated by the American Association of Retired Persons and the National Retired Teachers Association. Another is the drug service recently established by the National Epilepsy League, of Chicago, for the nation's 1,500,000 epileptics. Some unions have entered the field. Other plans, privately operated, are open to the general public. One of the largest is the Getz Prescription Company of Kansas City, Missouri. Several firms which emphasize vitamins by mail also fill prescriptions. And some discount department stores have pharmacies to handle mail prescriptions.

Who Says They Are Dangerous, And Why

Chief opponents of mail-order plans are the American Pharmaceutical Association, oldest and most authoritative professional group in its field, and the National Association of Retail Druggists. State boards of pharmacy are virtually unanimous in supporting their position.

Many states already have laws forbidding these businesses. Others report they are considering such legislation. However, although asked for specific evidence of abuses, few said they had any. Opposition to mail-order services centers on these charges:

1. These services destroy the physician-patient-pharmacist relationship. They eliminate personal contact that enables the pharmacist to check immediately on questions of dosage, refills, doubts raised by illegible writing, and other problems that may come up in filling a prescription. Furthermore, mail-order pharmacies generally do not dispense prescriptions which are needed immediately — a keystone of any effective patient-pharmacist relationship.
2. It is difficult, pharmaceutical groups say, for mail-order services to make certain they do not fill forged prescriptions. Hence, although they can not legally send narcitics by mail, these operators might become targets for widespread abuse by people seeking such drugs as barbiturates and amphetamines.
3. Delays in filling a prescription, it is charged, might be injurious to the patient. A doctor usually assumes the patient will start taking prescribed medication immediately. In extreme instances, delays might produce attempts at self-medication.
4. Critics fear a huge volume might result in the use of untrained, unsupervised persons to fill prescriptions.
5. If a patient takes an accidental overdose of a drug, or has some unexpected reaction to it, a physician might be unable to find out quickly exactly what was in the prescription.
6. Practitioners not licensed to prescribe drugs in their own states might use mail-order pharmacies to prescribe for their patients.

Official policy of the American Medical Association supports critics of these services. In a resolution adopted at its annual convention in June, the A.M.A. said: "The unorthodox practice of mail-order filling of prescription drugs is not in the best interest of the patient except where unavoidable because of geographic isolation of the patient." On the other hand, some individual physicians say they would not object to patients' using the service as long as the doctors are told which prescriptions are being sent and to whom.

Organized pharmacy's solution to what it considers a dangerous health problem is two-fold. One, it wants state and federal authorities to ban any pharmacy whose primary business* is dispensing prescription drugs by

* Neighborhood pharmacists fill prescriptions by mail regularly for customers who may be out of town, or, for one reason or another, are unable to bring the prescription in personally. The A.Ph.A. says prescription filling by mail is all right as long as there is a legitimate patient-pharmacists-physician relationship.

mail. And, two, it has long advocated laws, now in effect in several states, to make illegal the advertising of prescription drug prices.

How Do Mail Plans Answer Criticism?

The Retired Persons Pharmacy, possibly the largest, labels the charges against them "absurd." Dr. Ethel Percy Andrus, president of the sponsoring groups, has invited Federal Food and Drug Administration inspection of every phase of the pharmacy's operations, including its prescription files. She says:

"We repeatedly have instructed our members to ignore us and our lower prices if prescriptions are needed in haste . . . . We maintain a 24-hour accessibility (for physicians) to our prescriptions. The medical director of our associations has inspected and endorsed the excellence of our operation."

Dr. Andrus says her organizations would support laws providing tighter regulations and higher standards for all pharmacies. The service was started, she says, only because retired persons living on fixed, small incomes had not been able to buy necessary drugs at "reasonable prices."

In general, the mail-order business' defense appears to be:

1. It is possible for them to check on prescriptions. They do so whenever there are doubts of any kind about one. Furthermore, in most large cities, they say, the customer has no more personal contact with his pharmacist than if he sent the drug prescription to him through the mails.

2. Delays are not a problem. Users are usually advised that the service is not for anyone requiring medication immediately. The services say that a good many of their customers are people suffering from chronic ailments whose medication needs can be planned weeks in advance. Most mail-order houses say they fill prescriptions on the day they receive them or within a 24-hour period.

3. These pharmacies operate under the same state and local licensing and regulatory laws as do other pharmacies in their area. Certain aspects of their activities also are subject to FDA, Federal Trade Commission and postal regulations. If they did anything wrong, they claim, they would be prosecuted. One big mail-order business says there is no basis to the claim that untrained personnel might fill prescriptions, and it is "pure conjecture to camouflage the issue."

4. Forged prescriptions are a problem faced by pharmacists everywhere. Some of these services say they are building files of physician registries so they can at least verify that the prescribing physician exists. The National Epilepsy League sends a copy of the drug order it fills to the physician who wrote the prescription. The league says this enables doctors to quickly correct "any possible miswriting of the prescription." As far as could be determined, the NEL's service is the only one which does this. In any case, these firms can not send narcotics through the mails. (Getz Prescription Company, for one, says it also will not send barbiturates by mail.)

5. The FDA has stated it believes it is illegal for a practitioner not licensed to prescribe in his own state to try to do so by having patients use the mail services. Few such practitioners, say the services, would knowingly try to break the law.

What Do Government Agencies Say?

Neither the Food and Drug Administration, Federal Trade Commission, nor Post Office Department has ever filled a formal complaint against any of these services, as of this writing, although they have investigated, and are continuing to check, their operations. In fact, the mail-order plans point to the following statement by William W. Goodrich, council of the FDA:

"Complaints are coming to us from responsible people in pharmacy which tell us that the mail-order prescription business is fraught with public-health dangers; that these pharmacies are paying no attention whatever to the legal requirements.

"Such information as we have been able to get does not confirm these claims. The indications are that the mail-order pharmacies are being careful in dispensing what the prescriber has ordered and that unauthorized refills are not easy to obtain."

The lack of any formal action against the mail-order houses does not constitute, of course, any federal endorsement of their activities. M. R. Stephens, director of the FDA's Bureau of Enforcement, says, "Our main concern is not with the medium by which a prescription is filled. It is simply that the pharmacist should practice ethically, with

prudence and caution in this field." (The House of Delegates of the A.Ph.A. has passed a resolution that would change the group's code of ethics and brand as unethical conduct a pharmacist's participation in a mail-order service.)

It should be noted that the FDA says it needs additional legal authority—specifically the right to inspect the prescription files of pharmacies — if, as Goodrich says, it is to "accurately assess the magnitude of the health problems that may lurk in this practice." Organized pharmacy has traditionally opposed giving the federal government that right.

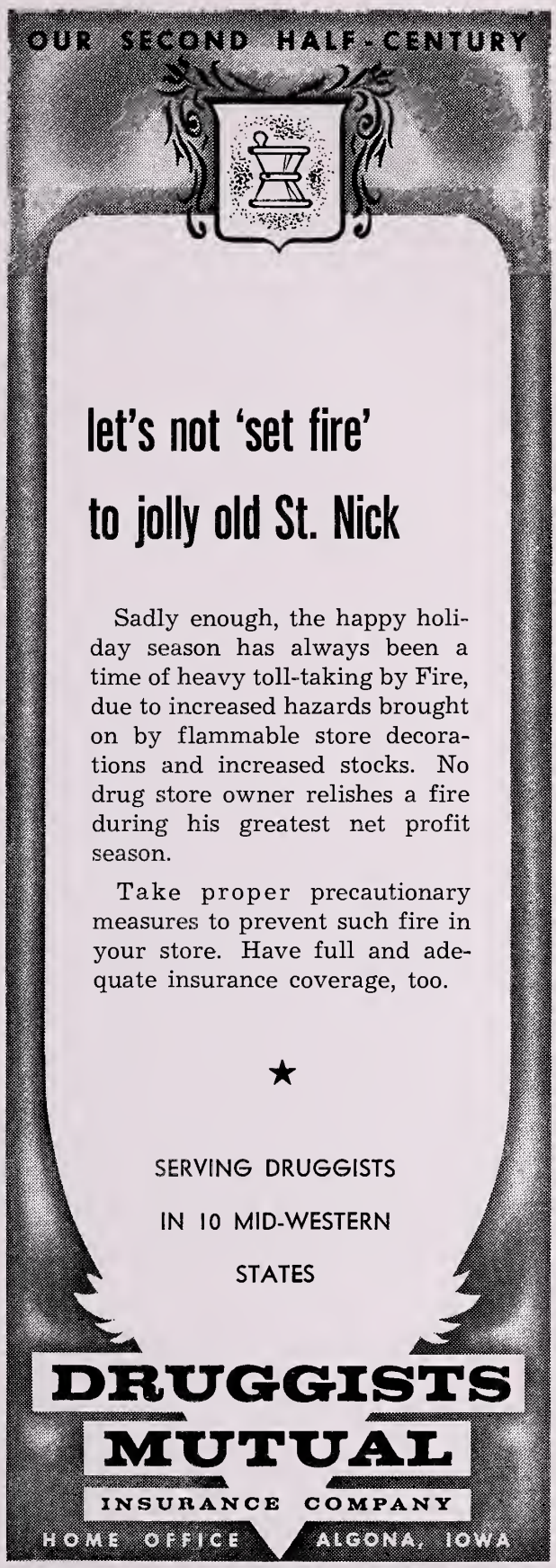
What About The Economics Aspect Of The Dispute?

The American Pharmaceutical Association says it "recognizes certain economic" questions are involved, but emphasizes its primary concern is "the public-health issue."

However, many drug industry leaders say the unchecked growth of mail-order houses may actually lead to higher prices at local pharmacies for those drugs not obtainable immediately by mail. According to this point of view, mail-order people get the cream of the prescription business, mostly items which do not have to be compounded by pharmacists. (The overwhelming majority of **all** prescriptions are in this category.) Some services have returned prescriptions unfilled to customers, apparently for no other reason than that they required compounding. In any case, the local drugstore might eventually be left to handle only medications needed right away and the few that had to be compounded. The store might then be faced with the choice of boosting prices of the drugs or closing its pharmacy.

The Dispute Over The Safety

Propriety, and value of these services is complex. Whether an individual, confronted by the serious charges made by responsible pharmacy groups, chooses to use such services is a personal decision. Before doing so, though, it seems reasonable to consult your physician first to make certain that (1) the medication is not needed immediately; (2) it does not contain narcotics and can be sent by mail; and (3) it is not an involved compound that your physician might possibly feel would best be handled by pharmacists well known to him and to you.





INFRARED SPECTROPHOTOMETRY IN U.S.P. XVI*

by
Arthur Osol, Ph.D.** and
A. R. Gennaro, Ph.D.***
Philadelphia, Pennsylvania

Indentification Problems

Pharmacopeial recognition of groups of compounds of similar structure, such as the glucocorticoids and the antihistaminic agents, has presented the problem of devising adequate identification tests for the individual compounds. In the past, identification of many organic medicinals was achieved through application of color reactions produced with various test solutions, but it is now probably impossible to devise chemical tests that will positively distinguish between the many members of a particular group of compounds, and also from substances in chemically related groups.

Differences in the spectrophotometric absorption characteristics of compounds suggests the possibility of using these characteristics as a means of identification of some official substances. In U.S.P. XV ultraviolet spectrophotometric tests were used for identification of the many antihistaminic agents recognized in that compendium, but the similarity of the spectra of the more closely related members of this class of medicinals nullified the utility of the spectrophotometric identification tests. The same problem arises when the spectra of other groups of structurally related substances are examined. The infrared absorption spectrum of a substance, on the other hand, will GENERALLY provide the means for conclusive identification of the substance. Even very closely related compounds, indistinguishable or almost so by other tests, may generally be positively identified. It must be recognized, however, that compounds differing only slightly in structure, e.g., certain homologous aliphatic compounds, may exhibit such similarity of infrared spectra as to make certain identification difficult, if not impossible.

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**Same as footnote in original.
***Same as footnote in original.

Infrared tests will conclusively identify all of the pharmacopeial ateroids the antihistaminic agents, and the members of other structurally similar groups. Because of this, U.S.P. XVI devised and adopted infrared identification tests in 89 monographs for bulk and dosage forms of the following medicinals: Acetazolamide, Atropine Sulfate, Betazole Hydrochloride, Calciferol, Chlorcyclizine Hydrochloride, Chlorothiazide, Chlorpheniramine Maleate, Cortisone Acetate, Cyclizine Hydrochloride, Activater 7 - Dehydrocholesterol, Desoxycorticosterone Acetate, Desocycorticosterone Trimetheylacetate, Dihydrotachysterol, Diphenhydramine Hydrochloride, Doxylamina Succinate, Krythrompcin Ethylcarbonate, Erythromycin Glucoheptonate, Erythromycin Lactobionate, Estradiol Benzoate, Estradiol Dipropionate, Estrone, Ethinyl Estradiol, Hydrocortisone, Hydroxystilbamidine Isethionate, Mecamylamine Hydrochloride, Methotrexate, Methyltestosterone, Novobiocin Calcium, Novobiocin Sodium, Phenindamine Tartrate, Phentolamine Methanesulformate, Prednisolone, Prednisolone Acetate, Prednisone, Prochlorperazine (Ethanedisulfonate and Maleate), Progesterone, Promethazine Hydrochloride, Pyrilamine Maleate, Pyrimethamine, Sulfamethoxypyridazine, Testosterone Cyclopenthylpropionate, Testosterone Enanthate, Testosterone Propionate, Tolazoline Hydrochloride, Tolbutamide, Triethylenemelamine, Tripelennamine (Citrate and Hydrochloride), and Tubocurarine Chloride.

Presentation of Spectrophotometric Data

In developing infrared spectrophotometric identification tests for U.S.P. XVI consideration was given to three methods for establishing identity, as follows: (1) to publish the infrared spectra of substances of U.S.P. quality for which this means of identification would be utilized; (2) to specify the wavelengths at which absorption bands are observed for specific compounds, and to indicate by the use of terms STRONG, MODERATE, WEAK, and SHOULDER THE intensity and character of the absorption bands; (3) to specify that the spectrum of the substance to be tested shall conform with the spectrum, similarly determined, of a U.S.P. Referenece Standard grade of the same substance. The third method, with one exception, was selected as the type to be used in U.S.P. XVI, because this method has the very important advantage of providing the analyst with the infrared spectrogram of the standard substance under the same experimental conditions employed in observing the substance being tested, thereby compensating for instrumental and procedural variations of testing that might otherwise vitiate the test.

Determination of Spectra

As is commonly known, infrared spectra may be determined by several techniques. A solid sample may be dissolved in a suitable solvent, it may be dispersed in a suitable medium (liquid petrolatum, for example), or it may be dispersed in a suitable solid (potassium bromide) for examination. The techniques of beasurement have been described by Gennaro and Osol (AMERICAN JOURNAL OF PHARMACY, 130, 368-382, 1958, Beckman Reprint 6138). In U.S.P. XVI the potassium bromide disc technique, in which a solid sample is dispersed in potassium bromide, pressed into a disc and examined, will be used in the majority of infrared identification tests. The following identification test for Prednisolone illustrates the conventional specification for this infrared procedure: "The infrared absorption spectrum of a potassium bromide dispersion of Prednisolone exhibits absorption maxima only at the same wavelengths as that of a similar preparation of U.S.P. Prednisolone Reference Standard. If a difference appears, dissolve portions of both the sample and the Reference Standard in a suitable solvent, evaporate the solutions to dryness, and repeat the test on the residues." The details of the method of performing the test will be left largely to the discretion of the analyst, the principal requirement being that the spectrum of the substance being tested and of the Reference Standard shall be similarly determined.

In the case of Prednisolone Tablets, the active ingredient will be extracted with dehydrated alcohol after a preliminary removal of interfering substances with solvent hexane, and the Prednisolone crystallized from the alcohol solution will be required to meet the infrared test.

For the official antihistaminic agents and their dosage forms, the base form of the ac-

tive ingredient will be liberated with alkali, extracted with carbon disulfide, and the infrared absorption characteristics of this solution determined.

Identification — Organic Nitriogenous Bases

The following is the general procedure to be followed: "Dissolve 50 mg. of the specified salt of the organic nitrogenous base, if in bulk, in 25 ml. of water, or shake a quantity of powdered tablets or the contents of capsules equivalent to 50 mg. of the salt with 25 ml. of 0.01 **N** hydrochloric acid for 10 minutes. Transfer the liquid to a separator, if necessary, filtering it and washing the filter and the residue with several small portions of water. In a second separator dissolve 50 mg. of the corresponding U.S.P. Reference Standard in 25 ml. of water. Treat each solution as follows: Add 2 ml. of sodium hydroxide T.S. and 4 ml. of carbon disulfide, and shake for 2 minutes. Centrifuge if necessary to clarify the lower phase, and filter it through a dry filter, collecting the filtrate in a small flask provided with a glass stopper. Determine the absorption spectrum of the filtrate in a 1-mm. cell between 7 u and 15 u, with a suitable infrared spectrophotometer, using carbon disulfide in a matched cell as the blank. The spectrum of the solution prepared from the sample shows all of the significant absorption bands present in the spectrum of the solution prepared from the Reference Standard. If the spectrum of the sample preparation possesses obscuring absorption bands not present in that of the standard preparation, the sample may be further purified and the test repeated."

A few tests will be performed on liquid petrolatum dispersions of the sample. Erythromycin Lactobionate, for example, will have the following specification: "The infrared absorption spectrum of a liquid petrolatum dispersion of Erythromycin Lactobionate, in the range of 2 to 12 mu, exhibits absorption maxima only at the same wavelengths as that of a similar preparation of U.S.P. Erythromycin Lactobionate Reference Standard."

Two monographs will specify an infrared spectrophotometric assay, for Actazolamide and Diethyltoluamide, respectively. The assay for Acetazolamide will be directed to be performed as follows: "Dissolve about 200 mg. of Acetazolamide, accurately weighed, in a small volume of pyridine in a 10-ml. volumetric flask, add the solvent to volume, and mix. Determine the absorbance of this solution in a 0.1-mm. cell at 7.38 u, with a suitable spectrophotometer. Calculate the quantity, in mg., of $C_4H_6N_4O_3S_2$ in the portion of Acetazolamide taken by the formula **A/a**, in which **A** is the absorbance of the solution and **a** is the absorptivity of U.S.P. Acetazolamide Reference Standard, determined similarly in a solution in pyridine containing 20 mg. in each ml." The assay for Diethyltoluamide is based on the difference in absorbance at 14.1u and 14.5u, and is measured in carbon disulfide solution.

From the standpoint of the Committee on Revision of the United States Pharmacopeia, perhaps the most difficult assignment in connection with these new developments has been — and continues to be — the preparation of the large number of reference standards required for the ultraviolet infrared spectrophotometric tests and assays. This is in itself a major scientific problem and experimental undertaking, a report on which must be reserved for another occasion.

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PRESIDENT'S PAGE



DOES IT MAKE SENSE?

We as retail merchants are being investigated, compared, and criticised in the eyes of the public. Nationally our profession and all related medical practices are told we are charging too much for our wares. Our margin of profit is too much, and nine out of ten times, those who are doing the finger pointing do not know the circumstanstances nor the situations.

The Medical and Pharmaceutical Professions would be the last to take unwarranted advantage in asking an unfair price for their services. We carry a large inventory in drugs with a hope enough will be used in order to pay for the item and also give up enough to pay store expenses and to live on.

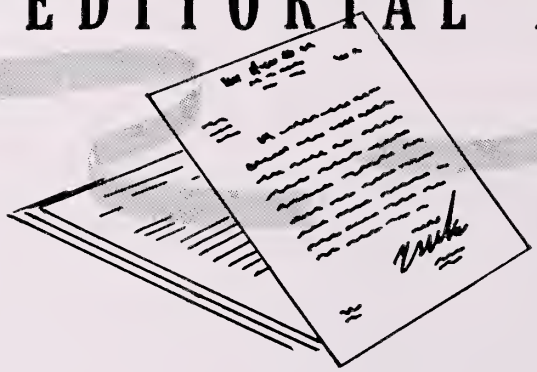
Now the federal government wants to raise the minimum hourly wage. This will increase our operating expenses and lower our net. We cannot charge more for our merchandise at that fast a rate. It is difficult for the public and the investigators to see how we are under indirect controls to make up for increased expenditures that happen over night.

We have nothing to hide. To be investigated will not harm us in the least IF ONLY THE FULL SITUATION IS SEEN. How would you like to be a supplier to the government — something the government needs is electronics for their space program? Is the government paying the lowest price for these items without questions or is it classified material? You are concerned — you are helping to pay for this.

Let the government investigating committee be fair and welcome all parties concerned to sit-in and have debatable powers when they are involved directly or indirectly. I have not read of an instance where we are welcomed or invited to hear the proceedings. DOES THIS MAKE SENSE?

Albert H. Zarecky
President S.D.S.Ph.A.

EDITORIAL PAGE



PHARMACY BUILDING NEEDS AT STATE COLLEGE

The Regents of Education and the Governor of the State of South Dakota will propose to the 1961 Legislature that an addition be made to the Science Building on the South Dakota State College Campus, in order to provide space for the Department of Chemistry and a portion of the Division of Pharmacy. The addition is needed to relieve present overcrowding and inadequate facilities and to provide in part for the inevitable increase in enrollment in the immediate years ahead.

The teaching and research facilities of the Division of Pharmacy are located on the first floor and in the basement of the Administration Building. Facilities being used are located in areas constructed as long as fifty years ago. These areas were not originally constructed or intended for laboratory space. The area is inadequately ventilated and inadequately equipped with proper service facilities for teaching and research laboratories. Animal quarters are located in an area difficult to ventilate and keep in a sanitary condition.

In addition, the presence of radiation and chemical laboratories in the same buliding as the administrative offices and the college auditorium constitutes hazards to the health and life of those in this building, as well as to the safety of college records. For this reason, some of the instruction and research in the Division of Pharmacy has been discontinued.

The Department of Pharmaceutical Chemistry of the Division of Pharmacy has received over $56,000 dollars from federal and private funds for instruction and research. A much larger share of federal money for instruction in rediation techniques and for research could be obtained if the department was located in adequate quarters.

The Science Building, presently occupied by the Chemistry Department, was built in 1929 as a replacement for the Chemistry Building which was completely destroyed by fire. The present building was constructed as a wing only of a proposed Science Building.

When the present Science Building was built, the capacity for freshmen students in the Chemistry laboratory was 360. This capacity was increased to 720 by dividing the storage compartments. Because of the nature and the amount of the equipment used in the

upperclass courses, this division of compartments is not possible in the other laboratories. The peak enrollment in freshmen Chemistry was 1047 which is obviously more than 45 per cent over capacity. This excess number of students has been cared for by assigning two students to each set of equipment. This emergency arrangement is not satisfactory and in some of the laboratories could be dangerous. The situation will grow steadily worse since conservative estimates indicate that the enrollment at State College may be doubled by 1970.

The present quarters for Chemistry and Pharmacy have no seminar or conference rooms, inadequate or, in some cases, no research labs for staff and assistants and insufficient classrooms to meet even the present enrollment. The department libraries are inadequate and in the case of the Department of Chemistry will hold only about 10 per cent of the books and journals in hand. In addition, the library serves as a reception room and outer office with typewriters and a mimeograph machine in use.

Since at least a year's work in Chemistry is required in practically all of the degree programs offered by State College (Agriculture, Engineering, Pharmacy, Home Economics, Nursing and Science and Applied Arts), and many require more than one year of Chemistry, lack of space in Chemistry hampers the work in all Science departments.

To adequately house the Division of Pharmacy and the Department of Chemistry for the next 20 to 30 years, a building costing $2 1/3 million dollars with a 106,200 square foot dimension is needed. Approximately $300,000 dollars of this building could be eligible for participation in the Federal Government's, Department of Education and Welfare, Health Research Facility Grant Program. Approximately $2 million dollars then would be needed from the State of South Dakota. This program was rejected by the Board of Regents in order that funds requested from the 1960 Legislature would not exceed present income.

Minimum needed facilities to house the Department of Chemistry and the Division of Pharmacy would be a building having a gross floor area of approximately 75,000 square feet which, at an estimate of approximately $20 per square foot, would require $1½ million dollars. Of this, approximately $200,000 dollars would be requested from the Federal Department of Health, Education and Welfare Grants.

At present the proposed addition to the Science Building, which has been approved by the Board of Regents, will house only the Chemistry Department and the Department of Pharmaceutical Chemistry of the Division of Pharmacy. It will be located in the space between the present Science Building and the Administration Building in back of Central and Old North. It will be a four-story building connected to the present Science Building at the first floor and basement levels. It will contain laboratories for Chemistry and Pharmaceutical Chemistry instruction, research laboratories for graduate students and staff, a departmental library and offices of the Dean of Science and Applied Arts. The gross floor area of the building is approximately 50,000 square feet which, at an estimate of $21.50 per square foot, will require funds in the amount of approximately $1,175,000 which includes estimated architects fees and movable equipment.

An application is now pending to the Federal Department of Health, Education and Welfare for a grant in support of the construction and equipment for the health-related research portion of the building. The sum requested is $173,621 which must be matched by an equal amount appropriated by the state.

Harold Spitznagel and Associates of Sioux Falls have been appointed architects and have prepared preliminary plans for this proposed structure.

It should be emphasized that the present proposal will house only the Department of Pharmaceutical Chemistry of the Division of Pharmacy. An additional appropriation will be necessary in the immediate future to build another addition to Science Hall in order that all of the Division of Pharmacy be moved out of the Administration Building.

A.PH.A. ADVICE RE FBI INVESTIGATIONS

The American Pharmaceutical Association issued a bulletin outlining the rights of practicing pharmacist and pharmaceutical asso-

ciations when Federal investigators' seek access to files. The FBI investigation of pharmacy in Utah and the civil anti-trust complaint against the Arizona Pharmaceutical Association is apparently a follow-up of the antitrust probe started this year in several western states.

"The importance of the Federal Government's antitrust suit against the Arizona Pharmaceutical Association and two county pharmaceutical associations in Arizona cannot be overemphasized. The next hearings on the civil antitrust suit filled by the Government against the Arizona Pharmaceutical Association, Maricopa County Pharmaceutical Association and Tuscon Pharmaceutical Association will be held on October 3, 1960. Counsel (Arthur B. Hanson, Law Offices of Elisha Hanson) retained by the American Pharmaceutical Association has been formally entered as co-counsel for these Arizona pharmaceutical associations, and will appear for the defendants at the hearings.

"The American Pharmaceutical Association has been informed that Federal investigators recently visited the offices of another state pharmaceutical association, and that numerous practicing pharmacists of that state were called upon by investigators seeking access to business, professional and personal files. To avoid misunderstandings on the part of pharmaceutical association officials or individual pharmacists, your attention is directed to the following facts.

"Many agencies of the Government employ investigators in their activities. The investigator is normally a very polite, intelligent gentlemen who identifies himself and then states that he would like to examine the records of the business or individual on behalf of his agency.

"The average American citizen has little knowledge of the fact that he has a **Constitutional Right** guaranteed to him to politely tell this gentleman that he will neither discuss nor will he permit the investigator to see **any** of his records or to investigate **any** aspect of his business, professional, or personal activities until he, the professional or businessman involved, has (1) consulted his attorney and (2) until the Government agent submits **in writing** a list of subjects on which the investigator desires information. **This is not being uncooperative with the Government!** This is merely availing one's self with rights which, from the times of our founding fathers, have been guaranteed by our **Government.**

"It is also sound procedure not to permit, what is termed by the courts, a "fishing expedition" into your business, professional, or personal activities without the advice of legal counsel or appropriate court process. In the latter case, the court will determine the rights of the parties as between the Government and the individuals or associations concerned.

"Every pharmacist and every pharmaceutical association may as well face the issue squarely that due to the furor relating to pharmacy as a whole, as evidenced by the Kefauver hearings, the Department of Justice has become quite interested in the practice of pharmacy at the community level.

"We urge that if any state, county, metropolitan or local pharmaceutical association is contacted by an FBI agent in behalf of the Department of Justice or any other Governmental agency, that you immediately contact your attorney, and alert the Legal Division of the American Pharmaceutical Association. We further urge associations to encourage their members to contact the office of the state, county, metropolitan or local association advising if and when individuals are visited by such investigators.

"Do not invite a lawsuit. Do not expose yourself unduly to investigatory procedures which, with appropriate handling, might otherwise die in the beginning.

Rx PHARMACY News

STUDENT PROFESSIONAL GROUPS NAME OFFICERS

Officers for the current year have been named by each of the three professional student organizations in pharmacy on the South Dakota State College campus.

Elected President of the Student Branch of the American Pharmaceutical Association was Tyrone Steen, Wheaton, Minnesota, Senior pharmacy major. Assisting Steen in directing the activities for the 1960-61 year are: Gerald Wannarka, Comfrey, Minnesota, Vice President; Sharon Mix, Brookings, Secretary; and Professor Kenneth Redman, Advisor.

Kappa Epsilon, National Women's Pharmaceutical Fraternity named Excellda Watke, Alvord, Iowa, as president, and Sharon Larson, Wankonda, Vice President. Other officers of the women's group are Sharon Berkner, Milbank, Secretary-Treasurer; Kay Coffit, Sioux Falls, Historian; Marion Hansen, Morris, Minnesota, Chaplain; and Mrs. Norval Webb, Advisor.

Larry Torguson, Senior pharmacy student from Glenwood, Minnesota, was elected Regent of the Gamma Kappa Chapter of Kappa Psi National Mens Pharmaceutical Fraternity. James Boehm, Wisconsin Rapids, Wisconsin, was named Vice-Regent. Also selected as officers were Robert Reutzel, Fairmont, Minnesota, Secretary; Gerald Wannarka, Comfrey, Minnesota, Treasurer; Robert Johnson, Canton, Chaplain; Tyrone Steen, Wheaton, Minnesota, Historian; and Dr. Norval Webb, Grand Council Deputy.

RHO CHI INITIATES FOUR

Tau Chapter of the Rho Chi National Pharmaceutical Honorary Society recently initiated four into membership. Minimum requirements for membership are a scholastic rating of B and Junior standing in Pharmacy.

Those initiated are: Vernon L. Henrich, Le Mars, Ia.; Robert J. Reutzel, Fairmont, Minn.; Maurice V. Tobin, Sturgis, S. D.; and Excellda J. Watke, Alvord, Ia.

The new officers elected are: President, Edward Mahlum, Brookings; Vice President, Maurice Tobin; Secretary-Treasurer, Excellda Watke; and Historian, Vernon Henrich. Dr. Gary Omodt, Assistant Professor of Pharmaceutical Chemistry, was elected Faculty Advisor.

LUNSFORD RICHARDSON PHARMACY AWARDS 1961

Announcement has been made that applications may be considered for the Lunsford Richardson Awards for Senior and Graduate students in pharmacy.

Eight $500 awards and sixteen $100 awards will be given to Senior and Graduate students in Pharmacy in each of the four different regions of the United States for the best papers on any of the selected subjects listed.

Cash awards of equal amounts will be given to schools attended by winning students in each region.

Honorable mention awards of $100 each will be made to two undergraduate and two Graduate students in each of the four regions who submit the next best papers.

The awards were established in honor of Lunsford Richardson (1854-1919), founder of the Vick Chemical Company, and his son Lunsford (1891-1953), who became president and later chairman of the Board of Directors of the Company. The winners of the awards will be announced about June 1, 1961.

The purpose of the Lunsford Richardson Pharmacy Awards is to encourage and stimulate the Senior and Graduate students: (1) to explore and investigate current problems of pharmacy, (2) to summarize and present their findings for the benefit of other students and investigators and (3) to burn the scope of their interest on the profession of pharmacy.

PROFESSORS ASSIST IN PUBLIC HEALTH EXAMS

Two South Dakota State College pharmacy professors recently assisted the American Public Health Association in preparing examinations used to evaluate the professional competency of candidates for positions in various health professions.

Guilford C. Gross, professor and head of the pharmocology department and Kenneth Redman, professor and head of the pharmacognosy department each prepared ten questions for use in examinations, which are administered to more than 20,000 persons annually in selecting and promoting Public Health Service personnel.

The tests are administered by state boards charged with licensing applicants in medicine, pharmacy, nursing, physical therapy and psychology. They are also employed by certifying boards, and professional organizations; and by schools of public health for evaluating students and curricula.

Undergraduate students may submit a paper on any one of the following subjects: (1) Informing the Public about Drugs, (2) The Professional Society — What it Means to Pharmacy and to Me. Graduate students may submit any paper which has been submitted as a thesis or portion thereof in partial fulfillment of their requirements leading to any of the graduate degrees in pharmacy.

PHARMACY ENROLLMENT

Fall enrollment in the Division of Pharmacy at South Dakota State College totaled 219. The figure is slightly lower than last year's enrollment. Registration by classes shows 58 Freshmen, 62 Sophomores, 45 Juniors and 54 Seniors. In addition to this undergraduate enrollment, there are two graduate students in Pharmaceutical Chemistry. Men students number 187 and 32 women students are registered. Female enrollment by classes totals 9 Freshmen, 9 Sophomores, 7 Juniors and 7 Seniors.

THE MONTH IN WASHINGTON

Representatives of the medical and health professions, the federal government and national civic groups are cooperaitng in development of a program for starting the general use of the Sabin live-virus poliomyelitis vaccine next year.

Shortly after clearing the Sabin vaccine for general use, Leroy E. Burney, M.D., Surgeon General of the Public Health Service, asked 23 non-government organizations to designate members to serve on a Surgeon General's Committee on Poliomyelitis Control.

An Agenda Committee met with PHS officials in Atlanta Oct. 11 and 12 and drafted a basic agenda for a meeting of the Control committee in mid-winter.



PLASTIC SURGICAL PROBLEMS OF GENERAL INTEREST

John K. Grotting, M.D.
and
Lyle V. Kragh, M.D.

Presented at the Annual Meeting of the South Dakota State Medical Association, May, 1960 in Aberdeen, South Dakota.

With the increasing number of accidental injuries, severe facial trauma is seen with increasing frequency. Injuries to the facial skeleton and soft tissues alone may, or may not, be emergency problems. Often there is an associated severe head injury which must be considered in the treatment. If there is considerable swelling in the pharynx and tongue regions, or if the mandible is severly comminuted and does not support the tongue, the airway may be obstructed in the oropharynx and tracheotomy may be necessary. Occasionally bleeding in the pharynx or nose may be considerable; however, this can usually be controlled by packing or suture. Though the majority of maxillo-facial injuries are not truly acute emergency problems, the best results will be obtained in these patients if they are adequately cared for early. If there are **severe facial bone injuries, several days may be required to carry out a** well planned program to manage these multiple injuries. Also, if the patient has sustained a severe head injury, a delay of several days, until the patient's general condition im-

proves, may be worth while. Many of the soft tissue injuries can be repaired under local anesthesia, and if the patient is unconscious or has had a severe head injury, suturing the facial lacerations under local anesthesia will not further jeopardize his serious condition.

Debridement of traumatized facial and oral tissues should be conservative. Facial tissues have a rich blood supply and necrosis of the traumatized tissue is less frequent than other less vascular areas. The wounds should be thoroughly cleansed and irrigated with saline. This will usually remove all the foreign material from the wound. If foreign particles are ground into the wound, every effort should be made to remove them by further scrubbing with a stiff brush. If these foreign particles are not removed, they may result in a permanent traumatic tattoo. Occasionally, a formed superficial traumatic tattoo can be removed by dermabrasion, but often they extend through the whole depth of the skin and excision is necessary to remove it.

Eyebrows should not be shaved in the preparation of wounds through or near them as the eyebrows grow back slowly and irregularly, and correct alignment of the shaved eyebrow structures may be difficult.

Mandible fractures can usually be diagnosed by the clinical examination of the patient. The teeth may not occlude as they did prior to the accident, tenderness is present over the fracture site, and there may be compounding of the fracture site into the mouth through a break in the oral mucosa. With pain in the ear region, especially associated with jaw motion, a subcondylar fracture should be suspected. With any mandibular fracture, look for a second fracture somewhere else in the mandible.

With maxillary fractures, the upper jaw may be freely movable. If the upper jaw has been forced posteriorly, the patient may have a relative prognathism and the narrowed nasopharyngeal airway may obstruct nasal breathing. Sometimes the fracture line involves the midline of the palate so that half of the upper jaw is stable and half is loose.

With suspected fractures of the middle third of the face, the one single roentgenographic examination that will be most useful is the Waters' view of the facial bones. Even in this view, the exact status of the facial bones is somewhat difficult to interpret, but, fortunately, most facial bone fractures can be quite accurately diagnosed by the clinical examination alone.

Fractures of the zygoma can usually be diagnosed on clinical examination. These fractures, like those of other areas of the mid-third of the face, usually occur through the thin areas of the bones. The cardinal features of malar (zygoma) fractures are:

1. flattening of the cheek due to inward and downward depression of the bone.
2. diplopia due to disturbance of the infra-orbital ridge and floor or wall of the orbit.
3. unilateral epistaxis due to hemorrhage into the antrum.
4. numbness of the upper lip due to trauma to the infra-orbital nerve in the line of fracture.
5. there may be difficulty closing the jaw due to impingement of the inwardly displaced malar bone on the coronoid process of the mandible.

Malar and zygomatic fractures can usually be reduced by one of the direct approaches through the cheek overlying the bone, through the intra-oral route, or through the temporal route. The temporal approach is especially useful for fractures of the zygomatic arch. The markedly comminuted malar fractures and fractures that will not stay reduced by one of these means may require, in addition, a Caldwell-Luc antrotomy and antral packing to hold out the depressed fragments. If one is not certain of the position of the orbital floor, open treatment is preferable.

With nasal injuries, the external and internal examination of the nose is usually more informative than is roentgenographic examination of the nose. Roentgenographic examination is often rather inconclusive, and if the external nasal contour has not changed, and if the nasal septum is unchanged, one can be reasonably certain that no serious nasal injury exists that needs specific treatment.

With nasal injuries in which consultation has been delayed several days or a week, the problem is more difficult. The nose will likely still be very swollen and therefore, the exact determination of any change in its contour is difficult. Also, the nasal roentgeno-

gram may be of little assistance. This problem is especially applicable to children. In some of these patients, as the soft tissue swelling recedes, a residual nasal deformity may be seen. In children, this deformity may become more marked as growth proceeds. This patient may then require a corrective rhinoplastic operation to correct his nasal obstruction and to improve the contour of his nose.

SCARS: With severe soft tissue injuries, in which there is marked contamination of the wound, impairment of blood supply to the local tissues, and in which there is often severe beveling of the wound edges, following healing of the wounds, a rather conspicuous scarring may be present. Since the process of healing is still progressing over a period of six to twelve months or more, gradual improvement in the appearance of these scars will be noted during that interval. These scars, which are particularly conspicuous about the face, can often be improved by revision. This usually involves excision of the scarred tissue and reapproximating the wound edges with supportive subcutaneous sutures and fine cutaneous sutures. The wound is then carefully dressed to support the wound edges. Following healing, the scar will usually be less prominent and conspicuous.

Scar contractures may form, especially across flexor surfaces, following burns or following any slowly healing granulating wound, or even following simple incisions placed across flexion creases. If the scar is confined to a narrow band, it is well suited to the application of the Z-plastic principle to it. This procedure, by the interposing of skin flaps, borrows skin from the adjacent lateral loose areas and utilizes it to gain length in the line of contracture. This fundamental principle of borrowing tissue from width to gain length is very frequently used in reconstructive surgery.

Unfortunately, with many scar bands, such as those following burns, the scarred and contracted area is broad and the Z-plastic alone is insufficient to totally release the contracture. Here, a free skin graft may be needed to achieve release. With a free skin graft, which has an inherent tendency to contract, especially over flexor surfaces, the extremity should be maintained in extension for some time to minimize contraction of the skin graft.

A note should be made here about the selection of the skin donor site. Most skin donor sites heal with only a small, but noticeable white scar. However, this is not predictable, and some donor areas have more conspicuous scarring or pigmentation. An ideal site for selecting skin in most patients, and especially in a girl, is the area over the hips which will be covered by a bathing suit.

EAR DEFORMITIES: A common ear deformity is the protruding or outstanding ear. This is usually present at birth and is usually bilateral, but not always so. The deformity is usually due to a poorly developed or absent antihelix fold. In boys, the deformity is especially conspicuous, and in girls, though the deformity can be covered by hair styling, a limited number of hair styles are available to these people. Because of the ridicule or comment that these people often receive, the patient or his parents request that something be done to correct it. The deformity can be corrected by making an incision behind the ear. Incisions are then made through the cartilage, restoring the antihelix fold and suturing the framework in this new correct position. With children, this operation can be done as early as five years of age.

A more difficult reconstructive task is the problem of the congenitally deformed or absent external ear. The deformed ear may be unilateral or bilateral. A small remnant of soft tissue may be present representing what should have been the normal ear. This ear remnant is often situated on an incorrect site on the head. Total reconstruction of the absent ear has always been a most difficult task, requiring many operations, and often ending with only a fair result. Many plastic surgeons, therefore, have preferred to have these patients fitted with a prosthetic ear which they attach daily. Because the prosthetic ear must be attached daily, and because of the embarassment associated with loss of the ear at an inopportune time, the ear prosthesis has not been completely satisfactory.

Recently, newer techniques have been applied to this old problem which have given better results.[2] A cartilaginous framework for the new ear is fabricated from the pa-

tient's own costal cartilages and inserted below the aural skin. Later, the ear is separated from the head and the concha region constructed. With these newer surgical procedures available, an external ear can be constructed with fewer operations and with more chance of being cosmetically acceptable. We feel that it should be offered to these children with this distressing problem.

CLEFT LIP AND PALATE: In this presentation, we will not attempt to review the whole problem of cleft lip and palate, but we wish to point out some of the progress that has been made in the treatment and rehabilitation of patients with cleft lip and palate in the past few years.

We believe that the cleft lip should be repaired in the first month or two of life, when the child is gaining weight. The anterior part of the palate may be repaired by a vomer flap technique either before or shortly after the lip repair. The repair of the remainder of the palate should be deferred until the patient is about two years of age so as to prevent interruption of growth of the maxilla which may occur with too early surgical repair of the rest of the palate.

Much of the new stimulus in cleft lip surgery has come recently from the modification by LeMesurier, of an old, but infrequently used, method of primary repair of the unilateral cleft lip. This repair involves the principle of making a step-type square flap of the lip on the lateral side of the cleft and suturing this flap into a prepared notch on the medial side of the cleft. This type of repair usually results in a lip with a more everted vehmilion portion and a better cupid's bow. A somewhat similar type operation was presented by Tennison. These repairs obviate the problem of vertical contraction of the operative scar, which in the case of straight line repairs, may shorten the height of the upper lip or produce a notching of the vermilion of the upper lip. In such older repairs, it may be impossible to close this short lip over the upper teeth so that the teeth are constantly exposed on the side of the repair. In these patients with short or notched upper lips, secondary repairs of these lips, utilizing the newer principles of repair mentioned above, have resulted in considerable improvement in appearance even in these patients.

Following repair of the lip and palate, the cleft palate patient may need the assistance of an orthodontist to correct malocclusions or to expand a contracted upper dental arch. Special dental prostheses are often helpful in improving the function and appearance of the teeth, or in helping to build out the contour of the dished-in upper lip. Occasionally, a special dental prosthesis with a pharyngeal extension (speech bulb) is used to partially occlude the area of velo-pharyngeal insufficiency and minimize nasal air escapage. This prosthesis often does improve the speech in these patients, but it has two disadvantages; first, these special dental appliances must be remodeled as the dental arch changes with growth, and second, these large appliances exert considerable pressure on the anchoring molar teeth. Because a dental prosthesis may play a very important role in the rehabilitation of these patients (who often have poor teeth initially) they should be especially encouraged to try to preserve their teeth by good dental hygiene and periodic dental examinations and treatment.

The cleft palate child will often profit greatly from the help of a speech therapist, in the prevention and correction of faulty speech habits. Sometimes the patient may have inadequate velo-pharyngeal closure from the shortening of the palate, but often part of the patient's poor speech is caused by bad speech habits totally unrelated to the anatomical velo-pharyngeal insufficiency.

In the past few years, there has been a return to the partial closure of the insufficient velo-pharyngeal region surgically by the use of a pharyngeal flap. This operation involves elevating a flap of tissue from the posterior pharyngeal wall and suturing it to the soft palate. Nasal air then escapes lateral to the flap during breathing and the flap decreases the nasal air escapage during speaking. This operation is often quite beneficial to patients with speech defects where abnormal nasal air escape exists.

Similarly, the large tonsils and adenoids that are often present in these children, help to close the velo-pharyngeal space. Unfortunately, some children have had tonsillectomy and adenoidectomy performed with resultant further impairment of their speech. Therefore, the tonsils and adenoids should be pre-

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THE JOY OF WORKING

ALTON OCHSNER, M.D.

The fruits of labor are the sweetest of all pleasures
Luc de Vauvenarques
Reflexiones, 1746
Labor is a pleasure in itself
Marcus Manilius
Astronomica IV
40 B.C.

Commencement Address, University of South Dakota. Presented in Vermillion, South Dakota, June 6, 1960.

Members of the class of 1960, I should like to greet and welcome you into the ranks of the University of South Dakota Alumni. We — you and I — have much in common. We are native South Dakotans, and I am sure all of us have the same potentialities for gratification in life which I trust each of us will develop to the fullest extent in order that we may derive the greatest amount of pleasure and benefit from living. We all know individuals who are extremely happy, who obtain great satisfaction just from being alive and we also know some — fortunately not as many — who possess most, if not all, the potentialities for happiness, but who have not taken advantage of these, and, for this reason, derive little satisfaction in living, which is indeed sad.

I have often thought about the qualifications in life upon which happiness depends. These are fundamental, and, because they are all essential to happiness, it is impossible to list them in order of importance. They are: 1) good health and well being, 2) leisure (resting, playing, traveling), 3) affection by and for family and friends, and 4) accomplishments (doing for others and doing a job well).

Most persons would agree that these gratifications are all necessary for happiness. Unfortunately, some individuals are reluctant to accept the importance of some of these prerequisites, but almost without exception, they are not happy.

Each of these categories could be discussed at great length, but most of them are so obvious that they require no elaboration. Good health and well being, although extremely important, are probably not absolutely essential for happiness, but it is difficult for one who has never been ill to assess their importance. However, we all know individuals in ill health who, by over-development of some of the other categories, have managed to achieve happiness. Ill health can be compensated for by increased affection of family and friends and other gratifications. Probably the least important of all the gratifications is leisure, since it is possible for one to have no diversion and yet be happy because of increased emphasis on other categories. In fact, leisure may at times be the cause of unhappiness, as will be shown later.

Affection by and for family and friends is imperative for happiness. Indeed, life itself is based upon affection. Although some individuals, completely ignorant of the meaning of affection, think they are happy, they really are not because without affection happiness is impossible. This may not seem important to you, newest members of the South Dakota Alumni, but as you grow older, your appreciation of this category will become greater.

I have dismissed the previously considered prerequisites for happiness after only cursory elaboration, not because they are unimportant but because their significance is obvious. I wish to discuss more in detail the remaining category, namely, accomplishments. Doing for others is nothing new, as exemplified in the golden rule: "Therefore, all things whatsoever ye would that men should do to you, do ye even to them." Doing for others consists of many facets, and it makes no difference whether one is simply kind to others and helps them by making their life's burdens easier or whether one is fortunate enough to be able to make significant charitable contributions. The satisfaction obtained by the boy scout who in doing his good deed (which I hope he and none of us limit to one a day) by helping an elderly person across the street is as great as that of the wealthy alumnus who contributes a million dollars to his Alma Mater. I know of nothing in which gratification is so rapidly compounded as in doing for others.

The final gratification I wish to discuss is doing a job well. Although considered last, it is certainly not the least important. In fact, I think it is one of the most important but, unfortunately, the least understood and most neglected prerequisite for happiness. There is no gratification so rewarding and so pleasant as that derived from having accomplished something. Not only is there a real thrill from the sense of accomplishment, but also there is a resultant product. Could anything be more gratifying and productive?

Sir William Osler,[1] one of the greatest of all physicians, in a dedicatory address at the University of Toronto in 1903, in speaking of a "master word" stated, "Though a little one, the master-word looms large in meaning. It is the open sesame to every portal, the great equalizer in the world, the true philosopher's stone, which transmutes all the base metal of humanity into gold. The stupid among you it will make bright, the bright man brilliant, and the brilliant student steady. With the magic word in your heart all things are possible, and without it all study is vanity and vexation. The miracles of life are with it; the blind see by touch, the deaf hear with eyes, the dumb speak with fingers. To the youth it brings hope, to the middle-aged confidence, to the aged repose . . . And the master-word is WORK, a little one, as I have said, but fraught with momentous sequences if you can but write it on the tablets of your hearts, and bind it upon your foreheads."

I am greatly concerned that we as a nation may be destined for a period when the gratification obtained from the sense of accomplishment, which is as great as any of the prerequisites for happiness, will be lost. There is an increasing tendency for people to want to do as little as possible, and the increasing demand for higher wages and shorter hours is not only depriving workers of the gratification of accomplishments but is also threatening the economy of our nation. Already the cost of our manufactured products is so

high that it is difficut for us to compete in the world market. Martin R. Gainsburgh,[2] the chief economist for the National Industrial Conference Board, stated recently in New Orleans, "We face a serious challenge to our capability for future growth. The restored economies of Western Europe have not only grown more self-sufficient but they also compete more vigorously for a larger share of the world markets. Their rates of growth are significantly higher than ours in the 1950's, as are those of Russia and other major powers. In fact, per capita growth in the United States has shown little, if any, rise during the past five years, in striking contrast to the vigorous growth of the rest of the world. **Our preference for more leisure may be among the factors contributing toward a lower rate of growth in the country than in others during the past decade."**

Ours is the greatest nation in the world. We have the highest standard of living and enjoy more comforts than all others, but we have lost the desire to work and do not derive the satisfaction we should from work. The fact that ours is the greatest of all nations is no accident. It is because the early settlers of the United States and those who followed had industry, willingness, and desire for work and they did work long and hard. No one can deny that leisure is essential, but too much idleness is undesirable and detrimental. It is frequently said that if one wants a civic job well done, he should ask the busiest man in town and it will be done expeditiously. Is it because he has more leisure time than others? Certainly not. It is because he works, knows how to utilize his time to the best advantage, and derives pleasure from a sense of accomplishment. **Leisure is desirable only if the individual utilizes it in a profitable manner.** Too frequently the leisure is so great that it is not appreciated and is not only wasted, but actually causes laziness, inefficiency, and discontent.

We have been subjected to two world wars since I was a student at the University of South Dakota. In both of these we were fortunately victorious after great suffering, loss of lives, and expense. Germany, which was our enemy in both wars, in spite of almost complete annihilation, has recovered so completely that while visiting there last summer I was told by a friend of mine, who is a senior officer in the Chase National Bank of Germany, that the German economy today is better than ours. This seems unbelievable, but I am sure it is true because my friend was in a position to know. How has such accomplishment been possible? It is due partly to our help, but mostly to the untiring industry of the German people and their willingness to work long and hard. Their sense of satisfaction from accomplishment must be tremendous.

Another World War II enemy of ours, Japan, has made a similar comeback. Although Tokyo and the major industrial cities had been almost decimated by our relentless pinpoint bombing, even including the atom bomb, there was practically no evidence of destruction when Mrs. Ochsner and I visited Japan four years ago and again two years ago. This has been possible only because of the incomparable industry of the Japanese people. Greatly overcrowded because of the large population on a relatively small area of land on a group of islands, they utilize every inch of ground for cultivation and never cease working. I am sure they are also very happy because they, too, indeed have a real sense of accomplishment in addition to the other prerequisites for happiness.

Because of their industry and great productivity, these nations are able to produce as good products as we but much more cheaply. This poses a real threat to our economy. During the recent steel strike I inquired of a friend of mine, who is president of a large concern which makes appliances for hospitals, whether the strike was interfering with his business. He answered that it had not because they have two foreign factories — one in Germany and one in Holland — where they are able to fabricate this equipment, ship it to the United States, and pay the import duty for less money than they could manufacture it in their United States factory. It is obvious that we are pricing ourselves out of the world market. This is a frightening realization and is of tremendous economic significance, but to a physician and humanitarian as great a tragedy is that the American people are losing, and in many instances have lost, one of our great heritages and a great source of satisfaction — the joy

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Designing Agency Coordination to Deal With Early Stages of the Deviancy Cycle — The Case of Alcoholism

by
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Digest of remarks prepared for:
A Conference for Planning Agency Participation in a State Program of Alcohol Problems. August 9-10, 1960, Pierre South Dakota.

The subject of alcohol problem needs to be considered in three divisions:

I. The nature of alcohol problems.

II. Certain problems involved in the concept "agency participation."

III. Selected research designs which lead to a more predictable understanding of the relationships between inconsistencies in behavior expectations in different social roles, emotional tension, and potential alcoholism.

The Nature of Alcohol Problems

Most use of alcohol which is definable as "problem usage" can be labeled deviant behavior, meaning that it deviates from established and accepted norms of behavior held legitimately by others of what is appropriate for given persons at given times and occasions. Without getting into the complication of who is right and who is wrong regarding differences of opinion about drinking issues, there would seem to be a general agreement by most people in American communities that certain kinds of drinking are definable as problems and deviant behavior. Included within such a definition is such drinking behavior as that which adversely affects other people, or the ability of the drinker to per-

form expected life roles pertaining to occupation and family obligations.[13]

Two important ideas have been developed about the nature of deviant behavior. The first is that certain social structures exert a definite pressure upon certain persons in the society to engage in nonconformist rather than conformist behavior. Certain persons seem to have a personal "needs disposition" towards deviant actions. At the same time, some geographic localities such as urban slums, or social localities such as schools or drinking parties seem to encourage actions which challenge existing authority, and which lead members into deviating kinds of behavior.

The second idea is that there seems to be a "life cycle" to at least some kinds of deviant behavior, even though the vast majority ends with an initial or trial stage. For instance, while it is considered natural in our society for boys to be "bad boys" or to "sow their oats," most young men leave deviant groups, except for occasional throw-backs at conferences or hunting parties, and conform to expected adult male behavior patterns. In fact, a relatively small proportion of boys and young men carry their deviancy so far as to get into serious trouble with the police or school authorities.

Even though only a small proportion of persons who engage in initial deviant behavior continue into advanced stages of deviancy, these become highly visible problems for communities. Social scientists have done a great deal of research on how and why some persons and groups move through the cycle from early stages, to advanced, to the "point of no return" stages of deviant behavior in such areas as crime, alcoholism, dependency, etc. Parsons[16] has attempted to develop a more basic theory of such deviancy and has dealt with such concepts as safety-value patterns, the problem of "blocking the road back from deviancy," the vicious circle of increasing individual and group investment in their deviancy, how to "nip the bud," in early deviancy development, the timing of sanctions, role conflict, dual claims to legitimacy, how to build "bridges" to deviant groups, how to construct "bridges back" for deviant groups, and how to undermine support for those individuals who have a personal "needs disposition" to deviancy.

The problems which this conference is posing makes for an almost mandatory consideration of the following hypotheses about certain kinds of deviant and problem behavior in communities. That the findings of research during the last two decades point to the probability that the character, degree of severity, and life cycle of many kinds of deviant and problem behavior are (a) predictable by such social structural factors as age, sex, social status, and locus of residence, and (b) detectable at early stages. Also, from symptoms data available at early detectable stages, the life cycle into advanced stages is not only predictable, but also probably preventable for many types of behavior. See references: 3, 4, 5, 6, 7, 8, 9, 10.

The primary guiding hypothesis of my thinking and of my interest in the work of your conference is that I think the social sciences now know enough to design the models for major community research, both basic and experimental, to detect and prevent, rather than deal only with attempts at correction or to accept permanent deviancy and rehabilitation efforts as the norm for community planning. This hypothesis appears applicable to many areas of dependency, delinquency and criminality, physical or mental illness*, alcoholism, the problem aged, and deviancy based on physical or mental handicaps. Several problems must be understood quite realistically:

(1) I have said only that we now know enough to help some few communities to try out carefully designed research as well as laboratory experiments upon themselves.

(2) Only the general patterns of such research designs are available, not specific models ready for use.

(3) It will require a considerable amount of time, financing, and specialized personnel to develop specific research designs.

(4) In my opinion the most potentially productive model for organizing such an

* I note in the introduction to the new book, **My Name is Legion,** which reports a comprehensive study in one county, that Dr. Leighton uses the term "psychiatric disorder" rather than mental health. He states, "We do not have the concepts and methods adequate for making a direct advance on the nature of health." (11)

approach is through some continuing joint working relationships between specific communities, universities and other organizations.

Basic to the hypothesis that certain personality developments are predictable is the body of theory and established knowledge called the "socialization of personality." It is hypothesized that a personality at any given stage is the consequence of the individual's attempts to adjust his total physiological and psychological organisms to the behavior expectations of his society. Personality development is a life-long process and is not so rigidly patterned in childhood as was once thought. While there still are basic disagreements among different schools of thought, there seems widespread agreement on these features of personality.

Much knowledge has been gained in recent years from research in the personality socialization of adults. Despite decades of argument, there is no clearly defined evidence which leads to hypotheses which can predict adult behavior or personality states from childhood variables. Studies of the performance of adult roles which contain pressure or inconsistent expectations indicate that different adults have different "tolerance" levels for resolving stress from fulfilling behavior expectations, without generating undue emotional tension. Yet, none have been able to relate these different levels of "tolerance" to any other variables. There is evidence that testable hypotheses can be developed from physiological, socio-cultural, and psychological variables which relate adult as well as childhood states to personality development.

Studies of aged persons point to the possibility that adult stage socio-cultural and psychological variables are important along with childhood variables in predicting the patterns of health, adjustment, and happiness vs. unhappiness and physical or mental disorder for persons who have passed the retirement-from-the-productive-adult state into the aged grades of our society.

There appears to be evidence that, almost irrespective of variables in the childhood or adult age grades, aged personalities can be socialized into predictably different stages from one end of a continuum of useful, happy persons, to the other end of useless "vegetable" states. It seems plausible that a happy, well adjusted retiree can be "broken" to a miserable emptiness, or an unhappy person can be developed into a secure, useful, happy personality merely by the variables of the circumstances impinged upon him following retirement from adult life roles.

The reason for dwelling on this point is not to prolong the historic but almost futile argument defending the overwhelming importance of childhood variables in patterning adult adjustment. Rather, the "life-long socialization" theory of personality is much more productive of developing testable hypotheses for predicting deviant and problem behavior, as well as for detection of persons in early stages of deviancy, and for developing hypotheses for preventing the transition form early to advanced stages.

There are two approaches which a community can use in setting about to predict future personality states for selected individuals. The **first** may be called the positive approach. Here the community would look more or less systematically at all of its citizens and then set about to help each one become the most happy, creative, and productive person within his capabilities. While we are learning now to use this approach with our most capable children, this represents a most complicated task, and one in which there is woefully little evidence for developing testable hypotheses. The **second** approach can be called the preventive one, for want of a better title. Here the problem is to find out how to help deviant and potentially problem individuals from becoming permanently deviant or problem cases for the community.

As capitalist societies have taken for granted that a "free" society almost automatically provides the type of social structure from which the largest amount of individual initiative, development, and achievement can be predicted, we have given little systematic attention to the first approach that of planning for more specific personality development of either the whole or any portion of the society. Almost by definition, so-called "totalitarian" societies make serious attempts to produce certain types of personalities.

Hence, the "Free Society" social sciences have produced a great deal more theory and

established knowledge about deviant behavior than about the deliberate planning of personality formation. We are finding now, however, as our society is in transition from a rural to an urban-industrial model, that we are recognizing, partially through new knowledge that the American society is faced with kinds of social planning which have not seemed necessary in earlier periods. These problems are not uncommon for any complex industrial society.

Experimental Research Models Which A Community Can Use To Develop A Program Of Early Detection And Prevention: It would seem feasible for a community, with some assistance from outside agencies, to develop a program of early detection and prevention of alcohol or other deviant behavior by developing the following action: (Basic to the suggested pattern is the idea that the primary point of initiation and organization must be citizen action in communities, and not state or other agency action detached from local citizen involvement, working for the good of the community.) (1) A community can conduct research to determine the locations from which its deviant behavior develops. These can be by geographic areas, or by such locus points in the social structure as age, sex, social status, etc.; (2) The most fruitful initial approach would seem to be to develop the methodology for detecting the persons in the community who can be defined as in "early stages of deviant or problem behavior." If such persons can be located with measurable criteria, they can form the nucleus for further research, prediction, and experimentation to prevent their continuation through the vicious cycle into advanced stages.

If this second approach is selected, the specific research steps would be as follows:

(1) The development of the necessary criteria for detecting persons in early stages of each specific type of deviant or problem behavior in which the sponsoring group is especially interested. (Initial trials should be made in limited areas, not for all deviant behavior).

(2) Locate the cases which can be detected by the criteria.

(3) Establish the models for predicting the development pattern for each case selected. Make the predictions.

(4) The first experimental problem would be to design and implement the model for corrective action to enter the predictive model in such a manner as to prevent the undesired or deviant behavior predictions from occurring.

(5) The next experimental problem would be to design the means of entering the predictive model with the kinds of elements necessary to predict the development of behavior which will be perceived by the community as a "useful life role," and which will be accepted by the person as a justifiable and legitimate social role for himself. (These two steps are not necessarily inconsistent or separate, but they do represent two different goals).

There is a growing body of evidence which indicates that friends, families, and neighbors are important elements in the personality development process. Such persons may have the potential of exerting greater influence over the subject than the customary model where professionals work directly with clients.[15, 22] This is illustrated by Alcoholics Anonymous. "Reference Group Theory" provides some important hypotheses for this process.

There are many details for each of the suggested steps for which a community will need specialized assistance, but this is the overall approach which now seems feasible from existing social science theory and established knowledge for "problem alcohol" or other kinds of deviant behavior. In my opinion, such further probing into these frontiers of knowledge can be a fascinating endeavor, and fruitful of developing more predictably effective methods of prevention as a substitute for a mere continued concentration upon almost futile corrective action at advanced or "point of no return" stages of the deviancy cycle.

Problems Involved in the Concept "Agency Participation"

Almost by definition, any attempt to implement the above program means the utilization of organizational structures, either by using existing organizations, by developing new ones, or by bringing presently organized structures into new kinds of arrangements. Here it is possible to turn for assistance to another area where a great deal of

research has been done, especially since World War II. While much of this research on organizational structures has been conducted on large scale organizations such as industry and governmental agencies, the principles apply to small as well as large structures.[20] Very little attempt has been made to apply the theory and research methods of this work to organizations dealing with health, welfare, or education. From this and other research, it is possible to hypothesize that several conditions characterize the presently organized pattern of health and welfare agencies as they are structured at state and local levels to deal with alcohol and other types of deviant behavior. (1) They concentrate much of their attention at the "advanced" or "point of no return" stages of such deviant behavior as alcoholism, crime, mental disorder, and dependency. (2) They are organized to deal only spasmodically with individual cases of deviancy or disorder in the community. There is no systematic continuity between agencies upon a single "problem individual," once he is defined as a problem by one or more of the agencies. (The "Youth Authority" idea has moved in this direction, but it starts only after the individual is in fairly deep trouble with the community, and discontinues at the end of the youth age period.) (3) A natural condition of state and community agencies is that they will likely be "in contest" with each other for power, funds, and public support. Each is likely to justify its functions in terms of its own existence, and not in terms of the needs of the whole community as it has to deal with its members, whether individuals or groups, which are definable as deviant. In fact, the fields of health and welfare have not kept up with modern organization theory and research methods even to the point of developing adequate and measurable criteria for evaluating their functions. The point of much of their informal and unsystematic evaluation is at the level of the function of the specific organization, and not the total needs of the community defined in systematic terms. In fact, an English skeptic, developed what he calls Parkinson's Law, which may apply to many organizations. After observing the organizational structure of the Royal Navy continue to increase in numbers even in peacetime, his Law states that "Work Expands so as to Fill the Time Available for its Completion." There are, almost without question, agencies in American comunities which have only the most vague definition of their justification for using public funds. (4) As presently organized, there are no agency relationships capable of dealing with community problems on the level of established knowledge; none are capable of conducting research on prediction, of systematically detecting cases in early stages of deviancy, or of providing systematic analysis and action models to prevent an almost automatic movement from early to advanced stages. (5) This situation can be called one of "organization lag." It is not something correctable with the platitudes of agency cooperation. It appears evident that many organizations are in a definate state of mal-function, are out of date in terms of modern knowledge, and are comfortably existing within taxation and public subscription budgets. It appears quite impossible to solve existing community problems without some serious re-organization of community agencies and organizations. (6) The basic immediate problems, in the absence of adequate criteria for evaluating existing organizations, is that of trying to find means of bringing existing organizations within a community together for a basic concentration upon the processes of early detection and prevention. (7) The process suggested here for bringing this about is something as follows:

a. The leaders of any given community can define early detection and prevention as the "norm" for agency function in the community. Granting, that treatment will have to be continued to deal with the results of the errors of the last generation, still the pattern of "concentration upon prevention" can be set by the leadership of any community. Systematic fact-finding, designed within theoretical and methodological models of personality and social organization theory, must be the point of the beginning. Yet, it is unlikely that any existing health or welfare agency in any state or community has personnel qualified to design and conduct such research.

b. Each agency which deals with deviancy can be requested to allocate certain of its

resources to the new process. Additional funds from community chests, and public budgets can be allocated specifically.

c. Outside state government agencies and universities can be requested to provide certain leadership and specialized assistance. The first steps will have to be oriented to research, so will likely need assistance from universities.

d. Each local organization can justify altering its traditional functions, because the leadership of the community, as well as the intellectual leadership of state agencies and universities will have deemed the "norm of community action" to be prevention instead of correction.

e. Hence, a new norm can be set which does not automatically result in inter-agency contest. No existing agency is doing the new job, knows enough to do it, or can do it alone. Hence, the only possible way of getting it done is through a means of bringing existing organizations to work on common goals. From such an effort, any community will likely find ways of altering the patterns of present agency function, despite the pressures from state and national agency headquarters that their own definitions of agency existence and functions should come ahead of community definitions of its own needs. Through this means, a community eventually can take charge of its own planning, and break the stranglehold of outside agencies upon the use of its funds, voted either through community chests, or through public appropriations at the local or state level.

Some of the greatest opposition to change may come from the state and national headquarters of some established agencies. In fact, it begins to appear as if such fund allocation processes as private fund raising community chest and public budgets are essentially "captured" by traditional agencies in such a manner that it becomes difficult for a community to break the stranglehold of tradition. Such a condition is possible because no person or group in a state or community knows enough to apply modern knowledge of early detection and prevention. The hypothesis presented here is that organized state and community leadership which decides firmly to apply such knowledge has the right and the power to decide how taxation and public subscription budgets shall be used. It can alter the present organization of duplicating, overlapping, and basically outmoded health and welfare agency structures which maintains itself by log-rolling, pressure, tradition, and manipulated public opinion, frequently with pressure and organizational and manipulation skills provided by national headquarters. It can develop a structure of community agencies which can utilize modern knowledge to develop systematic programs of planning for prevention of deviancy and problem behavior. While much of the work of such community groups could be conducted by the personnel of existing agencies, the basically different elements consist of (1) the coordination of organizations to (2) develop a systematic community program.

Research in community action has developed certain findings and principles of how inter-group involvement is achieved. The problem is to understand how two or more groups (organizations) can have a sufficient "convergence of interest" to agree to act on common goals. Several findings from other research are pertinent.[12]

1. Each group must be able to justify and hence legitimize the "group goal" within its own patterns of values, norms, and goals.
2. There need not necessarily be consistency between the participating groups in the reasons why they justify their decisions to accept the group goal. In actual fact, it has been found that different groups actually justify acting on the same goals for quite different or even conflicting reasons.
3. Groups which have the most commoness in values, beliefs, and goals find it easier to agree on common goals.
4. Groups which have interpersonal and friendship linkages have a higher probability of agreeing on common goals than those which do not.

Several hypotheses seem plausible from the research:

1. It is probable that groups which have been in severe contests for power will have greater difficulty in agreeing on common goals.

2. Once groups have a public reputation of being in diametrically opposed and serious contests for power, their contacts with each other may be so severed that communication can take place only through third parties.
3. Where different groups have a public reputation of opposition, each one may feel almost automatically bound to oppose any action proposed by the other.
4. Where different groups are in power contest, much available energy may be directed at "defeating the enemy," rather than at issues of larger importance to the public.
5. The most important positive resource for bringing organizations together is to be able to define the new common goals as within the "fund of good will" for the community, and as more related to the long time good of the community than mere continuation upon existing, but outmoded functions.

If states and communities desire to apply the kind of increasingly well established knowledge which has been presented here, it seems plausible that they will have to face up honestly to the facts of the high "overhead energy costs" which now go into presently organized agencies.[12] Many such agencies as well as their present functions were developed in an earlier rural society. We have added many new functions based on established knowledge. We have added child guidance clinics, special education for the handicapped, and public welfare. But we continue to support all the old agencies. Many are continued because of sentiment about what they accomplished a generation ago. Present day organizational structures are a hodgepodge of the old and the new, none of which can do an adequate job of applying presently available knowledge. In fact, most agency personnel are so far behind this new knowledge that they don't even know of its existence.

This paper ends with an attempt to state realistically some of the problems implied in the title of your conference — Planning Agency Participation. This type of conference, instead of the usual agency struggle, was sufficient to attract me to work with you. However, it is necessary to recognize that the task of obtaining agency participation instead of agency struggle is not an easy one. Two hypotheses have been presented: (1) That no conceivable new arrangement of the presently organized agency functions in communities can do the job of early detection of problem individuals or groups, or prevention of movement into advanced stages of deviant behavior. A new and different approach is a necessary element for the task. (2) Anticipating that some agencies will fight to maintain their present outmoded functions, it is hypothesized that only well organized citizen groups (including many persons from present agencies), armed with well documented new knowledge, will be able to do the task which now is possible.

Our society appears to have little alternative but to continue to support institutions of incarceration and treatment for the mistakes of the past generations, but evidence becomes increasingly clear that it no longer is necessary to continue to produce persons to keep these institutions filled by the year 2,000. The basic hypothesis is that communities can evolve an adequate pattern of organizational structures from present organizations. Many agency personnel now recognize the outmoded nature of their present functions, and will be willing to cooperate in a new approach. This is the reason for the necessity of starting with a careful approach to setting achievable new goals which represent a combination of adequate application of new knowledge combined with, not a new agency, but new combinations of existing ones. It is predicted that many existing agencies will be able to develop "convergencies of interest" to work on new goals. A final word of warning, however, is that few if any community or state government agencies now have sufficient command of this new knowledge to put it into application. The first point of beginning is any community must be related to a careful application of the new theory and research methodology.

Selected Research Designs Which Lead to an Understanding of Inconsistencies in Behavior Expectations (Social Role), Emotional Tension, and Poential Alcoholism.

This section will be obviously incomplete. It consists of selected research models which

have been developed primarily to study the relationships between occupations and alcoholism. It represents an initial attempt to design certain ideas which appear related to the developmental pattern in which alcohol is used as either (1) a means of resolving the emotional tensions which result when inconsistent behavior expectations from different social positions (job, family, friends, etc.) are imposed upon a given person, or (2) to avoid fulfilling legitimate behavior expectations from one or more of these positions.[17, 18, 19] Appreciation is expressed to William Farm and Ruth Useim for their assistance in developing those research designs.

Model I represents an initial model for defining the different stages of alcoholism, and to show how other variables (social-cultural, psychological, and physiological) are related to each stage. The different types are defined as follows:

a. The Pre-Alcoholic: This type, while showing evidence of alcoholic-type drinking, shows no observable evidence that the drinking is adversely affecting the legitimately expected role performance of the individual, either on the job or elsewhere.

b. The Early Alcoholic: Here there must be some observable evidence that some role behavior expectations are being adversely affected by the use of alcohol. These, however, are not to the extent of any major ill-performance of major roles, either occupational or family.

c. Middle-Stage Alcoholic: This type includes observable evidence that basic occupational or family roles are being adversely affected by alcoholic-type drinking. This ill-performance will likely be accompanied by serious consequences such as failure to obtain advanced-type or more complex jobs, promotions, or other privileges.

d. Advanced Alcoholic: Here alcoholic drinking has serious detrimental consequences on job performance.

Sub-type (1): The employer or work companions make attempts to hold the worker on some kind of job.

Sub-type (2): The drinker is dismissed from his regular employment and must make other occupational arrangements.

Research Design Model II: Analysis of Different Behavior Expectations Held by Self versus Different "Relevant Others" of Job versus Family Obligations.

The Following diagrams illustrate the research problems inherent in one element of role definition, namely that different "significant others" have rights to define the behavior expectations of the occupant of any given position. The diagrams illustrate how the employer, the wife, as well as the man (self) have inherent rights of defining behavior expectations, and that it is not possible to assume consensus between these. (A compares self definitions of job vs. family behavior expectations, B compares self vs. employer definitions, C compares self vs. wife definitions.)

Cultural resources available for alleviating or relieving such stress:
1. Relieve blockages to getting ahead on job.
2. Alter the extent of involvement in getting ahead on job.
3. Physical illness and accompanying social role of the sick person, as well as altered behavior expectations of other persons on job and in family.
4. Extensive use of alcohol.

Other possible types of strains in relation to job:
1. Time required by the job; for instance, week ends.
2. Job expectations pertaining to drinking on the job. Self vs. wife expectations.
3. Beliefs about rightness or wrongness of drinking.

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(References Continued on Page 615)

Illustrations on next pages.

Research Design Model I: Types of Alcoholism as Related to Social-Cultural, Psychological, and Physiological Variables

I. Social Cultural Variables A. OCCUPATIONAL VARIABLES		TYPE OF PROBLEM DRINKER				
		Pre Alcoholic	Early Alcoholic	Middle-Stage Alcoholic	Advanced Alcoholic	
					Sub-Type	
					(1)	(2)
1. Relationship to fellow workers	a-Friendly					
	b-Medium					
	c-Not friendly					
2. Amount of "cover-up" of job failure by fellow workers	a-High					
	b-Medium					
	c-Low					
3. Extent of creativity and productivity on the job	a-High					
	b-Medium					
	c-Low					
4. Economic value of job performance to employer	a-High					
	b-Medium					
	c-Low					
5. Type of occupation	a-Professional					
	b-Managerial					
	c-Supervisory					
	d-Sales					
	e-Clerical					
	f-Skilled					
	q-Semi-skilled					
	h-Unskilled					
6. Type of work organization	a-Entrepreneurial					
	b-Bureaucratic					
7. Classification of job roles: 1) Nature of job roles	a-Multiple performance expectations					
	b-Medium					
	c-Single job performance expectations					
2) Consistency vs. lack of consistency in job oriented behavior expectations	a-Consistency between different expectations on the job					
	b-Medium					
	c-Lack of consistency between different expectations on the job					
8. Relationships between job role expectations and family role expectations	a-Consistency					
	b-Medium					
	c-Lack of consistency					

See Reference: (21)

Research Design Model I: (Con't)

B. OTHER SOCIAL-CULTURAL VARIABLES		TYPE OF PROBLEM DRINKER				
		Pre Alcoholic	Early Alcoholic	Middle-Stage Alcoholic	Advanced Alcoholic	
					Sub-Type	
					(1)	(2)
1. Sex	a-Male					
	b-Female					
2. Age	a-Under 30					
	b-30 to 50					
	c-Over 50					
3. Education	a-Elementary					
	b-High school					
	c-College					
4. Social Class	a-High					
	b-Middle					
	c-Low					
5. Beliefs about drinking	a-Drinking is all right					
	b-Mixed					
	c-Drinking is wrong					
6. Childhood Variables leading to:	a-Adequate ability to perform adult role expectations					
	b-Medium					
	c-Lack of ability to perform adult role expectations					
7. Character of first drinking experience	a-Vivid memory					
	b-Medium					
	c-Little recall					
8. Nature of teen-age drinking experience	a-Normative					
	b-Deviant					
	a-Stressful					
	b-Not stressful					
II. PSYCHOLOGICAL VARIABLES						
III. PHYSIOLOGICAL VARIABLES						

Model A. Self Definitions of Job vs. Family Role Behavior Expectations

SELF PERCEPTION OF DEGREE OF CONSISTENCY OF FAMILY ROLE BEHAVIOR EXPECTATIONS WITH JOB ROLE BEHAVIOR EXPECTATIONS	**SELF PERCEPTION** OF DEGREE OF CONSISTENCY OF JOB ROLE BEHAVIOR EXPECTATIONS WITH FAMILY ROLE BEHAVIOR EXPECTATIONS		
	High	Medium	Low
High			
Medium			
Low			Undue emotional stress and/or alcoholism predicted

See References: (1, 2, 10)

Model B. Self vs. Employer Definitions of Job vs. Family Role Behavior Expectations

SELF PERCEPTION OF DEGREE OF CONSISTENCY OF FAMILY ROLE BEHAVIOR EXPECTATIONS WITH JOB ROLE BEHAVIOR EXPECTATIONS	**EMPLOYER PERCEPTION** OF DEGREE OF CONSISTENCY OF JOB ROLE BEHAVIOR EXPECTATIONS WITH FAMILY ROLE BEHAVIOR EXPECTATIONS		
	High	Medium	Low
High			
Medium			
Low			Undue emotional stress and/or alcoholism predicted

Model C. Self vs. Wife Definitions of Job vs. Family Role Behavior Expectations

WIFE PERCEPTION OF DEGREE OF CONSISTENCY OF FAMILY ROLE BEHAVIOR EXPECTATIONS WITH JOB ROLE BEHAVIOR EXPECTATIONS	**SELF PERCEPTION** OF DEGREE OF CONSISTENCY OF JOB ROLE BEHAVIOR EXPECTATIONS WITH FAMILY ROLE BEHAVIOR EXPECTATIONS		
	High	Medium	Low
High			
Medium			
Low			Undue emotional stress and/or alcoholism predicted

RESEARCH DESIGN

MODEL III: The possible relationships between (a) compatibility between different role behavior expectations, and (b) the ability of the individual to tolerate role incompatibility without engendering undue emotional stress.

ABILITY OF GIVEN PERSON TO TOLERATE ROLE INCOMPATIBILITY WITHOUT ENGENDERING UNDUE EMOTIONAL STRESS	DEGREE OF COMPATIBILITY BETWEEN SOCIAL ROLE BEHAVIOR EXPECTATIONS IMPINGED UPON A GIVEN PERSON		
	High	Medium	Low
High			
Medium			
Low			Undue emotional stress and/or alcoholism predicted

RESEARCH DESIGN MODEL IV: Extent of Involvement in Getting Ahead on Job vs. Perceived Blockages

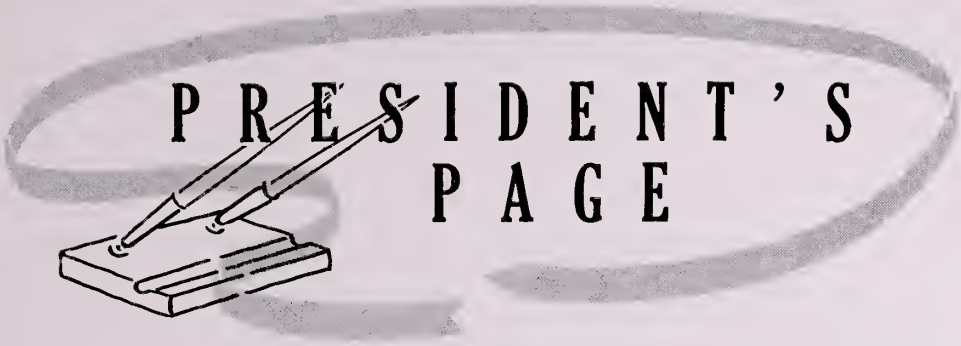
Extent of Involvement in Getting Ahead on Job	Perceived Blockages to Getting Ahead on Job		
	High	Medium	Low
High	Stress Predicted		
Medium			
Low			

RESEARCH DESIGN MODEL V: Relationship of Consistency Between Involvement in Getting Ahead on Job and Extent of Blockage vs. Wife's Expectations of Getting Ahead on Job.

Consistency Between Involvement in Getting Ahead on Job and Extent of Blockage	Wife Expectations of Getting Ahead on Job		
	High	Medium	Low
High Involvement, High Blockage	High Stress Predicted		Wife Can Become a Social Resource to Resolve Stress
High Involvement, Low Blockage			
Low Involvement, High Blockage			
Low Involvement, Low Blockage			

RESEARCH DESIGN MODEL VI: Relationship Between Beliefs About Drinking vs. Job Related Expectations About Drinking and Actual Drinking Behavior.

Worker's Beliefs About Drinking	Job Related Drinking Expected		Job Related Drinking Not Expected	
	Does Drink	Does Not Drink	Does Drink	Does Not Drink
Approves of Drinking			Possible Stress	
Middle Categories				
Disapproves of Drinking	Stress Predicted			





Dear Friends,

As the Christmas season again draws near, one stops to reflect on friendships, both old and new, which have been enjoyed; on experiences, both pleasant and memorable; and on world-shaking events of the past year. In this jet-space age it does one good to remember the God-given promise of the Saviour's birth, assuring us of better and greater things to come.

At this Holiday Season may I wish you the merriest of Christmases and the happiest of New Years, and assure you that your friendship and cooperation is making my year one of pleasure and happiness in serving you.

Again, best wishes to you all.

Very sincerely yours,
C. Rodney Stoltz, M.D.
President

Merry Christmas

and a

Happy New Year

These words, so easily spoken — so happily heard, take on a special meaning for us on the staff of the Medical Association and Blue Shield. It has been a big year of growth for us, some minor changes, many major ones. During the year Doris Tatge left the group and two new girls, Kathy Elrod and Pat Briggs joined us.

We moved into our new headquarters building in July — the building you made possible. With this change came a flood of new work particularly in the Blue Shield offices.

Our work is dedicated to the many "bosses" we have — the doctors of South Dakota. May Your Christmas be Merry and Your New Year the Very Happiest.

Staff Members on the tree from top to bottom: South Dakota State Medical Association — John C. Foster, Executive-Secretary; Phyllis Sundstrom, Assistant Executive Secretary; Patty Saunders, Assistant Editor; Patty Butler, Secretary, and the South Dakota Medical Service, Inc. — Richard Erickson, Assistant Executive Director; Jonna Mulder, Claims Clerk; Kathy Elrod, Claims Clerk and Patty Briggs, Claims Clerk.


Seasons Greetings

EXECUTIVE COMMITTEE MEETING
SOUTH DAKOTA STATE MEDICAL ASSOCIATION

Medical Association Building
Sioux Falls, S. D.
November 19, 1960

The meeting was called to order by President Stoltz at 2:30 P.M. The following members were present for Roll Call: Drs. C. Rodney Stoltz, C. J. McDonald, A. P. Reding, Magni Davidson, and J. J. Stransky.

Dr. McDonald moved that the reading of the minutes of the last meeting be dispensed with inasmuch as they have been published. Dr. Davidson seconded the motion and it was carried.

The Committee first considered the proposed Memorandum of Understanding which has been submitted by the Public Health Service for care of the Indians. The proposal had been referred to the Executive Committee by the Council for consideration and recommendation. Mr. Spatafore and Dr. McNaughton of the Indian Agency Health Office in Aberdeen appeared before the Committee and discussed the proposal and answered questions from the members of the Committee. After much consideration Dr. Stransky moved that the Executive Committee recommend to the Council that the Medical Association set up a standard figure of $3.50 per unit on all services in the Memorandum of Understanding as a basis for negotiations with the Public Health Service Indian Agency Office. Dr. Davidson seconded the motion and it was carried.

The Committee then considered the question of payment of travel expenses to committee members for out of state travel on Medical Association committee business. Dr. Davidson moved that the Executive Committee recommend to the Council that the Association dispense with paying anything to members of the Association for travel to meetings within the State. The motion was seconded by Dr. Reding and carried. Dr. Stransky moved that the Association pay the full expenses of the duly elected Delegate and Alternate Delegate to the Regular and Interim Sessions of the American Medical Association. Dr. Davidson seconded the motion and it was carried.

Dr. Davidson then moved that authorization for other travel out of the State by individuals representing the State Association shall be made by prior approval of the Secretary-Treasurer, the request being routed through the Executive office. Dr. McDonald seconded the motion and it was carried. Dr. McDonald moved that actual transportation costs, plus ½ of the other expenses should be paid. Dr. Reding seconded the motion. After discussion Dr. Stransky introduced a substitute motion that the Association should pay actual travel expenses plus the actual hotel expenses for authorized out of State travel. The motion was seconded by Dr. Davidson and carried.

Dr. Davidson moved that the Association pay the bill submitted by Dr. H. Russell Brown for his trip to the Legislative Meeting in Salt Lake City. The motion was seconded by Dr. Stransky and carried.

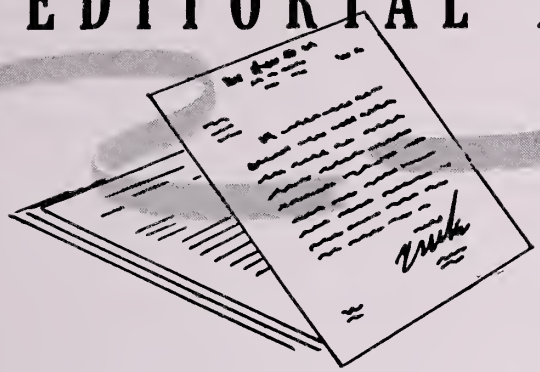
Mr. Foster read a letter to the Committee from Mr. Will Robinson, State Historian, concerning the outstanding physicians in the history of South Dakota. Dr. Davidson moved that the publication **Post Graduate Medicine** be sent a copy of the letter with the suggestions, but that they contact us again in the future before making a final determination of the South Dakota selection. Dr. Reding seconded the motion and it was carried.

Mr. Foster explained the suggested public relations project submitted by the Blue Cross office for a card case size folder with space for medical information which they wish to distribute, with the endorsement of the State Medical Association. Dr. Reding moved that the endorsement of the Association be given to this project. Dr. McDonald seconded the motion and it was carried.

Mr. Foster announced that the Indigent Care Committee had scheduled meetings in December to prepare for the coming Legislative session. One will be held on December 8.

The meeting adjourned on motion at 5:15 P.M.

EDITORIAL PAGE



INFLUENZA IMMUNIZATION

Two outbreaks of influenza swept the United States in the fall of 1957 and the winter of 1958, resulting in 60,000 more deaths than would be expected under normal conditions. There were, in addition more than 26,000 excess deaths during the first 3 months of 1960 which also were considered to be the result of influenza.

These departures from the usually predictable norms prompted the Surgeon General's Advisory Committee on Influenza Research to analyze the cause and to seek measures to prevent such an occurrence in the future.

The committee found that a new antigenic variant, the Asian strain, because of its widespread introduction and the general lack of resistance to it, was the direct cause of the excess number of deaths, not only in the total population but most markedly among the chronically ill, the aged, and pregnant women. As a result of these findings, the Public Health Service is urging a continuing program to protect these high-risk groups in order to prevent a recurrence of this excess mortality.

The high-risk groups who contribute most to the excess deaths and who the Public Health Service believes should be routinely immunized each year are:

1. Persons of all ages who suffer from chronic debilitating disease, in particular: (a) rheumatic heart disease, especially mitral stenosis: (b) other cardiovascular diseases, such as arteriosclerotic heart disease or hypertension—especially patients with evidence of frank or incipient insufficiency; (c) chronic bronchopulmonary disease, for example, chronic asthma, chronic bronchitis, bronchiectais, pulmonary fibrosis, pulmonary emphysema, or pulmonary tuberculosis; (d) diabetes mellitus; (e) Addison's disease.
2. Pregnant women.
3. All persons 65 years or older.

The adult dosage recommended by the advisory committee for initial immunization is 1.0 cc. (500 cca units) of polyvalent vaccine, administered subcutaneously on two occasions separated by two or more months. Preferably, the first dose would be given no later than September 1 and the second no later than November 1. Persons previously im-

munized with polyvalent vaccine should be reinoculated with a single booster dose of 1.0 cc. subcutaneously each fall, prior to November 1. The only contraindication to vaccination would be a history of food allergy to eggs or chicken or a prior history of allergic reaction to an egg-produced vaccine, such as the commercial influenza product.

The time to start such a program is before the onset of the influenza season this fall. In the past, influenza vaccination has been sparse and sporadic, and primarily in response to an epidemic or the threat of an epidemic. The unpredictability of recurrence of influenza and its continuel endemic occurrence are well known. Therefore, the Public Health Service strongly recommends that immunization of these high-risk groups be started now and continued annually, regardless of the predicted incidence of influenza for specific years.

The members of the Surgeon General's Advisory Committee on Influenza Research are: Colin M. MacLeod, M.D., chairman, University of Pennsylvania, Fred M. Davenport, M.D., University of Michigan, Morris Schaeffer, M.D., bureau of laboratories of the City of New York Health Department, George Burch, M.D., Tulane University, Dorland J. Davis, M.D., National Institute of Allergy and Infectious Diseases, Public Health Service, Thomas F. Sellers, M.D., Georgia State Department of Health, and Glenn S. Usher, M.D., Communicable Disease Center, Public Health Service.

Leroy E. Burney, Sugeon General,
Public Health Service

(Editorial Comment)

Since the expected cyclic projection pattern of various diseases is constantly changing, the advise given regarding influenza immunization holds true for all immunizations.

It is each physician's responsibility to see that all his patients, whether infants or aged be protected against various infections. The article above on influenza is concise, informative and should be studied by all practitioners, that they may be well informed as to the status of influenza and the means and methods by which we may protect our patients against this disease.

N. E. Wessman, M.D.

LETTER TO THE EDITOR

Dear Sir:

I have just read the editorial on education which appeared on page 542-543 of the Journal of Medicine and Pharmacy. It is heartening to know that those of us in education in South Dakota are not alone in our battle to improve education in the state.

As you are no doubt aware, there has been a heavy drift of teachers into the ranks of the Democratic party during the past 20 years. Part of this, I believe, has been caused by the feeling that other professional groups have abandoned any interest in education that they may have had, and that there is no place to go for help except to Washington.

Certainly, doctors and pharmacists should be vigorous critics, and vigorous supporters of the educational system which produced them. But as your editorial points out (or the quotation within it) state support to education has slipped badly in South Dakota. We have dozens of small, inefficient high schools of from 25-50 students. Many science classes are being taught by untrained teachers in classrooms that too often do not have a single microscope.

It would seem apparent in the Twentieth Century that we cannot accept second, third, and even fourth rate schools any more than we should accept second, third, and fourth rate hospitals, pharmacies, doctors and pharmacists.

We can get a first rate educational system in South Dakota but the educators are going to have more help than they have been getting from the other professions.

The political awareness that you urge on doctors and pharmacists elsewhere in the Journal of Medicine and Pharmacy should certainly (and perhaps especially) extend to the field of education.

Sincerely yours,

J. K. Hvistendahl,

Asst. Prof. of Journalism

THE MONTH IN WASHINGTON

Election of Sen. John F. Kennedy as President made it probable that the issue of providing health care for the aged under Social Security again will be raised in Congress next year.

Kennedy will go into the White House pledged "to the immediate enactment of a program of medical care for the aged through Social Security." His intentions present a serious challenge to the nation's physicians who have vigorously opposed use of the Social Security system to provide health care for the aged.

Kennedy's program would provide what he described as "a life policy of paid-up medical insurance" for older persons. "It would provide them hospital benefits, nursing home benefits and X-rays and laboratory tests on an out-patient basis," he said in his campaign for the Presidency.

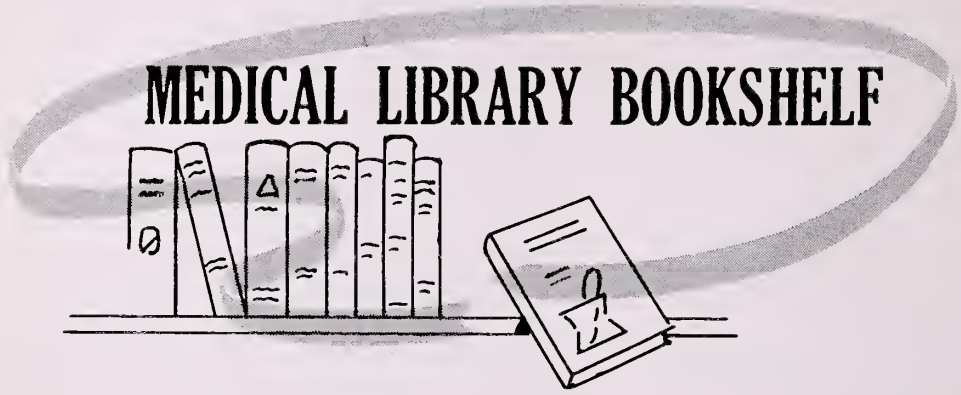
He said the Kerr-Mills legislation enacted into law last summer is inadequate. The medical profession supports this federal-state program to provide health care for needy and near-needy aged persons. In approving the Kerr-Mills program. Congress rejected the Social Security approach espoused by Kennedy and union labor leaders.

Kennedy's medical program also included: federal grants for construction, expansion and modernization of medical, dental and public health schools; federal loans and scholarships for medical students; federal grants for renovating older hospitals; increased federal financial support for medical research, including basic research, and expansion of federal programs for rehabilitation of handicapped or disabled persons.

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(Continued from Page 603)

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GOVERNMENT RESPONSIBILITY IN MEDICAL CARE

This was the subject for discussion by a panel of four, which consisted of Dr. T. H. Sattler of Yankton as moderator; Judge Nichol of Mitchell; Paul Dickensheets, Director of the VA in Sioux Falls; Lowell Schmidt, manager of the Huron Clinic and Dr. H. Russell Brown of Watertown.

The first speaker, Judge Nichols, explained the new federal law for aged health care. Those eligible are the medical indigent who are not under social security and who are required to take an oath that they are unable to pay for medical care. In Judge Nichols opinion, it would be better to have medical care for the aged under the social security plan. Then anyone over 65 needing medical care could accept the payment plan with dignity knowing that he had contributed his share toward it.

Mr. Schmidt and Dr. Brown opposed both social security and a plan of medical care administered under the social security system because of the dangers of government control and socialism. Dr. Brown emphasized that eventually other groups beside the aged would be brought under this medical care plan and the tax would then be increased tremendously.

Mr. Dickensheets, representing the VA in Sioux Falls described the facilities and requirements for medical care for veterans provided by the Government mainly for service connected cases.

Other facts brought out in this panel discussion was the increase in life expectancy from 39 years a century ago to 70 in 1960 and 75 in 1975. (Even at 75 the chances for survival for 10 years are appreciable — almost 1 in 3 for white males and 2 in 5 for white females). There are now 16 million over 65 in the United States.

Judge Nichols regretted the fact that our State Legislature had failed in the last two sessions to pass legislation which would enable the new law concerning aged health care to become effective in South Dakota.

A need for exploring private sources for financing and existing plans for medical care was brought out by Dr. Brown and Mr. Schmidt.

The **AMA News** for October, 1960, gives some information about the new federal law, the Kerr-Mills Amendment to the Social Security law. The government will make available 50 to 60 percent of the cost depending on the state's per capita income. It will provide $12 a month in health care services to about 2,400,000 elderly persons currently

receiving Old Age Assistance. It also offers to match state funds to provide services equal to private hospital and medical insurance standards for "medically indigent" persons not on OAA. It is for this latter provision that states must pass additional legislation and grant new appropriations. Michigan and Kentucky have recently voted at special sessions to participate in this program. The Kentucky legislature appropriated $925,000 for the next two fiscal years.

The Special Staff on Aging of the U. S. Department of Health, Education and Welfare has published a pamphlet entitled "Aging, a community responsibility and opportunity," U. S. Government Printing Office. The effects upon our older citizens of changes in our pattern of living are brought out. The small house or apartment has become the typical family residence with little or no room for the "old folks." The old fashioned "family homestead" with its round of activities in which the older generation could continue to play a part, has largely faded from the picture. They are faced with the fact that they have reached a new phase of life where they must develop new interests and a new manner of living largely independent of their children.

Jobs are harder to find with retirement at 65 necessary for realizing social security benefits and forfeiture for earning more than $1,200.00. Health maintenance in the face of growing physical disabilities is one that confronts many older people and forces them to make adjustments in their way of life. Only about one third of the population aged 65 and over have any form of health insurance, and that generally only applies to hospital and surgical expense. Many are beyond the age that is acceptable for existing plans of insurance and in addition most plans are too costly.

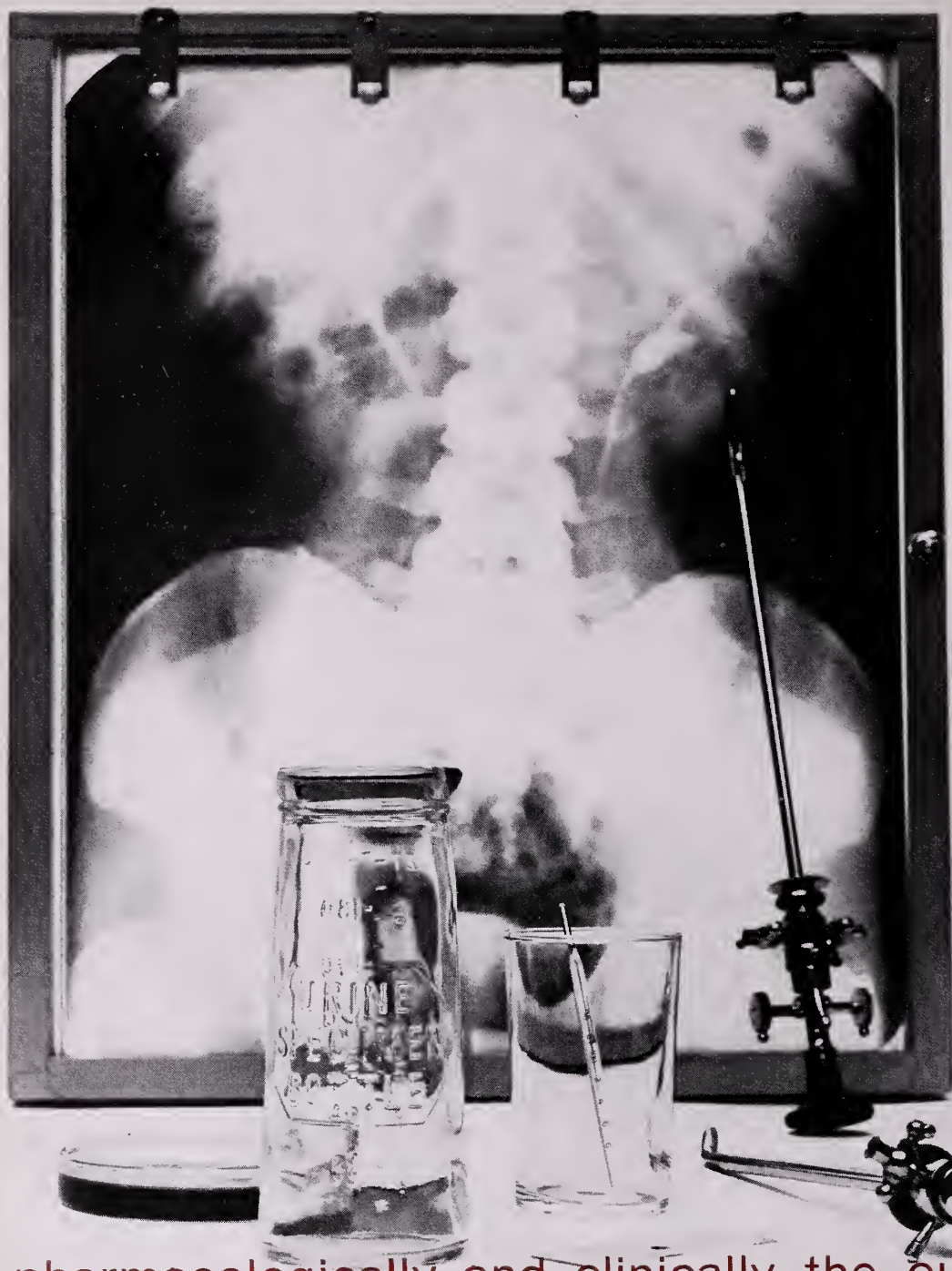
In this challenge of aging the Federal Government has a vital role. The importance of old-age and survivors insurance and old-age assistance, as administered by the Department of Health, Education and Welfare, is self-evident. The research work into chronic disease — and into the aging process itself — conducted by the National Institutes of Health of the Public Health Service — is postponing the onset of long term disability. And a variety of other programs of the Department have a direct bearing on aging. Similarly, the Department of Labor has steadily been expanding its efforts to increase employment opportunities for the middle-aged and older workers. The Housing and Home Finance Agency has special programs concerned with housing for the elderly. Other departments and agencies of the Federal Government have programs relating to the aging field.

Since 1950, within the Department of Health, Education and Welfare (or its predecessor, the Federal Security Agency) a Committee on Aging has functioned as a Nationwide clearinghouse of information on all aspects of aging and has also provided a wide range of consultation services to State, local and voluntary groups working in the field. More recently, a Special Staff on Aging has been established in the Office of the Secretary to coordinate the many and various program developments in aging for the entire Department.

Of major significance, also, was the creation by President Eisenhower, in the Spring of 1956, of a Federal Council on Aging. The Council, whose secretariat is provided by the Department of Health, Education and Welfare, has responsibility for coordinating all programs within the Government which in any way relate to aging, and to give direction to the Government's further activities in the field.

Esther Howard

Medical Librarian



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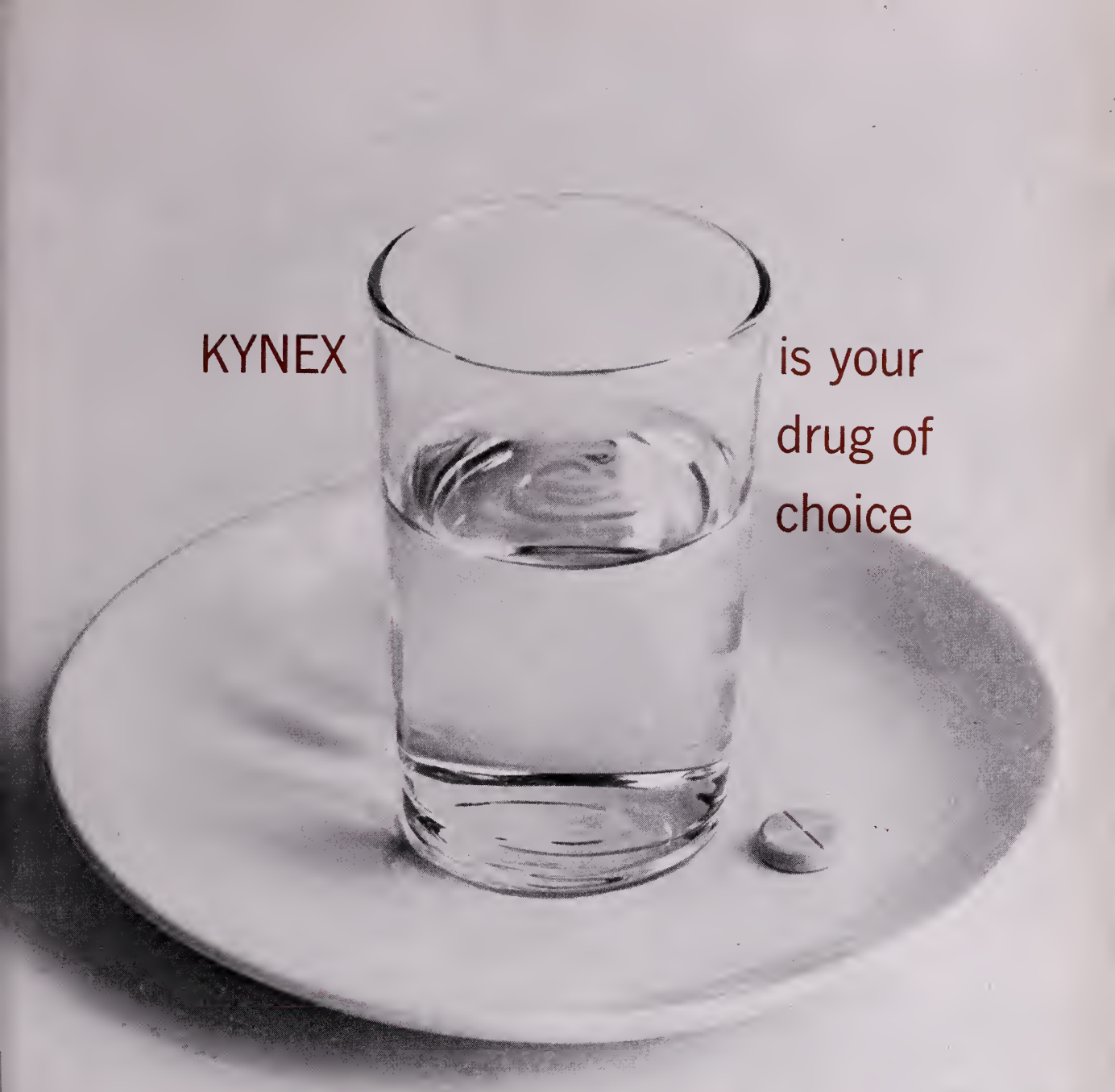
Rapid peak attainment — for early control — KYNEX® Sulfamethoxypyridazine reaches peak plasma levels in 1 to 2 hours[1,2] . . . or approximately one-half the time of other once-a-day sulfas.[2] Uninterrupted control is then sustained over 24 hours with the single daily dose . . . through slow excretion without renal alteration.

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Successful against these organisms: streptococci, staphylococci, E. coli, A. aerogenes, paracolon bacillus, Gram-negative rods, pneumococci, diphtheroids, Gram-positive cocci and others.

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NOTE: Investigators note a tendency of some patients to misinterpret dosage instructions and take KYNEX on the familiar q.i.d. schedule. Since one KYNEX tablet is equivalent to eight to twelve tablets of other sulfas, even moderate overdosage may produce side effects. Thus, the single dose schedule must be stressed to the patient.

KYNEX Tablets, 0.5 Gm., bottles of 24 and 100. Dosage: Adults, 0.5 Gm. (1 tablet) daily, following an initial first day dose of 1 Gm. (2 tablets).

KYNEX Acetyl Pediatric Suspension, cherry-flavored, 250 mg. sulfamethoxypyridazine activity per teaspoonful (5 cc.). Bottles of 4 and 16 fl. oz. Recommended Dosage: Children under 80 lbs.: 1 teaspoonful (250 mg.) for each 20 lb. body weight, the first day, and ½ teaspoonful per 20 lb. per day thereafter. For children 80 lbs. and over: 4 teaspoonfuls (1.0 Gm.) initially and 2 teaspoonfuls daily thereafter. Give immediately after a meal.

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QUESTIONS AND ANSWERS ON PREPOSITIONED EMERGENCY HOSPITALS FOR CIVIL DEFENSE

QUESTION: What is the purpose of the Prepositioned Emergency Hospital Program?

ANSWER: This program is only one facet of the objectives of a tremendous Health Mobilization Plan for disaster preparedness. In a bulletin from the United States Department of Health, Education and Welfare, outlining its program objectives for the fiscal year 1960-61, appeared the following forward By Dr. Carrath J. Wagner, Chief, Division of Health Mobilization: "The Public Health Service is the principle health agency of the Federal Government. For a century and a half, it has directed its efforts towards bettering the peacetime health of the nation and undertaking emergency services as required in time of disaster or war.

The responsibility of the Federal Government for functioning in the field of civilian medical care and public health is based in part on the certainty that the country's ability to withstand a national emergency and recover, is directly related to the health of its people. This responsibility encompasses the total available health resources — manpower, supplies, and facilities — and their provident management in every community of the nation.

Survival of this country following a nuclear attack will depend upon its ability to reconstitute its social, environmental, industrial, and governmental structures. Basic to all, recoupment will be the health of the surviving population. Capabilities to assure retention and maintenance of a healthy populous must be developed through well conceived planning efforts and a thorough program of training and education during the pre-emergency period.

It is every community's responsibility to foster emergency readiness by active organization and dissemination of pertinent information. The Health Mobilization Program of the Public Health Service is dedicated to provide maximum assistance to community preparation in the health aspects of National Defense."

QUESTION: What is the designed function of the 200-bed Emergency Hospital Unit?

ANSWER: The 200-bed Emergency Hospital Assembly is patterned after the Army 60-bed Field Surgical Hospital, adapted to use in treating injuries resulting from thermo-nuclear attack and national disasters. These units are movable and can be accommodated in one large semi-trailer for transporting. The mission of the improvised hospital is to provide early hospitalization for the seriously ill and injured casualties as close as possible to the stricken area for life-saving, initial and repairative treatment or surgery.

QUESTION: How many Civil Defense Emergency Hospitals are there in South Dakota?

ANSWER: South Dakota has Prepositioned Emergency Hospitals located at Aberdeen, Watertown, Huron, Miller, Mitchell, Yankton, Pickstown, Sanator, Lead and Lemmon. There are two Training units based at Brookings and Rapid City. The Training Units are identical to the prepositioned Hospitals except that

they may be uncrated for demonstration. The Brookings Unit is located at South Dakota State College. The Rapid City Unit is located on the National Guard Compound, Camp Rapid.

QUESTION: To what extent can service to the sick and injured be provided and for how long?

ANSWER: **Each hospital consists of:** ten wards of 20 beds each, three operating rooms, one clinical laboratory, one sterilizing room, one central supply room, one X-ray room, one triage room, one pharmacy, morgue space, storage space, and offices. There are 288 items in 450 packages. In an emergency, the hospitals would be set up in outlying schools, churches or other buildings to provide working facilities for doctors and nurses evacuated from the nine regular hospitals in the State's critical target areas. Accompanying each Hospital Unit are enough supplies such as drugs, medicines and dressings for 36 to 48 hours operation.

Hospital feeding of staff and patients is to be accomplished by Civil Defense Welfare workers with their own supplies and equipment.

QESTION: How many doctors and nurses are needed to staff an OCDM Emergency Hospital?

ANSWER: A regular staff of 306, including 16 physicians, 33 nurses, 173 trained aides, and assorted technicians, clerks and untrained workers is needed for each hospital.

QUESTION: How much time is required in setting up an Emergency Hospital for operation?

ANSWER: It takes four hours to erect with a crew of thirty trained and semi-trained auxiliarys or approximately one hundred fifteen man hours.

PLASTIC SURGICAL PROBLEMS OF GENERAL INTEREST—

(Continued from Page 592)

served in the cleft palate child if it is at all compatible with his general health.

SUMMARY

In this presentation, we have reviewed some of the common plastic and reconstructive problems, with a brief discussion on the diagnosis and treatment of some of these conditions. Some of the newer concepts and progress in this field have been presented.

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THE JOY OF WORKING—

(Continued from Page 595)

of working. As succinctly stated by Shelley[3] in 1813, "There is no wealth but the labor of man. Were the mountains of gold and the valleys of silver, the world would not be one grain of corn richer: no one comfort would be added to the human race" and by Emerson[4] in 1849, "When I go into my garden with a spade and dig a bed, I feel such an exhilaration and health that I discover that I have been defrauding myself all this time by letting others do for me what I should have done with my own hands."

You, the newest Alumni of the University of South Dakota, and other graduates throughout the nation have a real opportunity and a great responsibility. We all must make every attempt to keep the United States the greatest of all nations but this can be achieved only by loads of hard work by everyone. This is the most rewarding effort I know, not only because it is productive but also because it gives one the satisfaction of accomplishment. In the words of James Beattie,[5] "From labor health, from health contentment springs."

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NEWS • NOTES • • • BIRTHS • • • CHANGES • NEWS

Pop's Proverbs

Joe Doaks of Listerine Junction is not a bit interested in your Contributions to Medical Education or donations to Medical Student loan funds, but he is interested in how his physician treated him; the interest shown; the fees charged, and the results obtained.

WESTERN PREPAID PLANS MEET IN WINNIPEG IN OCT.

Representatives of thirty-one western prepaid medical plans met in Winnipeg Oct. 26-27-28, to discuss problems of common nature.

John C. Foster, executive director of South Dakota's Blue Shield plan attended the sessions which included critical papers and panel discussions.

NORTH CENTRAL CONFERENCE DRAWS RECORD ATTENDANCE

The North Central Medical Conference held annually in the Twin Cities drew its largest registration in recent years on November 6th.

A top-flite program coupled with the availability of some Iowa-Minnesota football tickets was responsible for the excellent turn-out.

Dr. L. O. Simenstad, Osceola, Wisconsin, presided at the meetings which took up the problems of "Medical Assistance for the aging," "Medical Society Responsibilities," "Relative Value Index Studies" and "Grievance Committees."

Dr. L. J. Pankow, Sioux Falls, appeared on the program to discuss activities and problems of South Dakota's Grievance Committee.

FORMER GOVERNOR M. Q. SHARPE WILL AGAIN HEAD HEART CAMPAIGN IN SOUTH DAKOTA

State Chairman for the 1961 Heart Fund Campaign in South Dakota will be former governor M. Q. Sharpe of Kennebec, who headed the drive in 1960.

Mr. Sharpe pointed out that local Heart Fund contributions make possible the support of vital cardiovascular research in South Dakota and elsewhere in the nation. "The heart and blood vessel diseases are still the nation's number 1 health enemy," he said. "I believe that, if we can firmly establish this fact in the minds of the residents of South Dakota.

S. D. REPRESENTED AT HEART CONCLAVE

Five members of the board of directors represented the South Dakota Heart Association at the Annual Meeting and Scientific Sessions of the American Heart Association in St. Louis, October 21-25.

State President **Mary E. Sanders, M.D.,** Redfield, **Dr. John A. Lowe,** president-elect, Mobridge, **Dr. John W. Argabrite,** Watertown, **Dr. John W. Donahoe** and Mrs. L. Robert Reynolds, Sioux Falls, attended the five day meeting.

More than 5,000 physicians, research scientists, nurses, dentists and lay leaders from throughout the country met to discuss the newest developments in the nationwide effort to control and conquer diseases of the heart and blood vessels.

Dr. Sanders was the professional delegate and Mrs. Reynolds served as the lay delegate to the meeting of the National Assembly on Monday and Tuesday.

ASSOCIATION GETS SAFETY RECOGNITION

The South Dakota State Medical Association received a certificate of Recognition from the Sioux Falls Safety Council at the Annual Meeting of the Council on October 26th.

Basis for the recognition was the Association's cooperation in securing and printing a poison advice card for public use.

S. D. PHYSICIAN SPEAKS AT N. C. CONFERENCE

Dr. L. J. Pankow, Sioux Falls, spoke at the North Central Conference in Minneapolis on November 6th, concerning Grievance Committees.

Dr. E. B. Howard, Assistant Executive Vice President of the AMA, discussed the Medical Society Responsibilities concerning new legislation, and Aubrey Gates, Director of Field Services of the AMA, outlined the AMA's program on future legislation.

Attending the meeting from South Dakota were: **Drs. C. Rodney Stoltz,** Watertown; **R. A. Buchanan,** Huron; **H. R. Wold,** Madison; **L. J. Pankow,** Sioux Falls; **A. W. Spiry,** Mobridge; **H. E. Lowe,** Mobridge; **D. A. Gregory,** Milbank; **R. F. Hubner,** Yankton; **John C. Foter** and **Phyllis Sundstrom,** Sioux Falls. **Mrs. C. Rodney Stoltz** represented the South Dakota Auxiliary.

PIERRE SOCIETY MEETS OCT. 20

The Pierre District Medical Society met October 20th at the Country Club in Pierre. Twelve members were present and heard a discussion of the Medical Association's Office Overhead Protection Insurance Program by **Mr. J. D. McGreevy** and **Mr. John C. Foster.** No scientific program was scheduled.

MEDICAL HISTORY OF WAR OFFERED

Many of the medical lessons learned during World War I had to be relearned under fire during World War II because of paucity of distribution of the World War I medical history.

Lieutenant General Leonard D. Heaton, The Army Surgeon General in an endeavor to prevent this costly relearning process, in the unhappy event of another war, has directed the preparation, publication, and distribution of the "History of the Medical Department, United States Army, in World War II." General Heaton is particularly anxious that information of the existence and availability of this History be circulated widely among the profession, both military and civilian.

Of the 48 volumes programmed for the series, 15 have been published and can be purchased at modest cost from The Superintendent of Documents, Government Printing Office, Washington 25, D. C. The set of 15 volumes may be purchased for $66.50 or individual volumes can be obtained at remarkably low prices. Commanding officers of medical units may requistion copies for their Medical Units libraries by submitting DA Form 17 directly to The Historical Unit, U. S. Army Medical Service, Washington 12, D.C., ATTN: Promotion Branch.

PLAN ATTACK ON QUACKERY

Plans for a national conference of leaders concerned with the health menace of arthritis quackery were announced by Floyd B. Odlum, national chairman of The Arthritis and Rheumatism Foundation. The conference will be held early in March, 1961, in Washington, D. C., according to the announcement made at the voluntary health organization's twelfth annual meeting at the Hotel Commodore in New York.

Mr. Odlum explained that the purpose of the conference will be "to consider ways in which all groups and individuals concerned with the deceitful promotion of arthritis remedies and 'cures' can move against the problem with maximum effectiveness to protect our 11,000,000 victims of this crippling disease."

The problem of quackery in arthritis is the target of a current national campaign by The Arthritis and Rheumatism Foundation. It has been receiving increasing attention throughout the nation as a result of the Foundation's recent disclosure that arthritis sufferers are spending more than $250,000,000 annually on deceitfully advertised products.

DISASTER CARE IS SUBJECT OF CONFERENCE

Three hundred representatives of American Medicine met in Chicago November 1-6 to consider problems of Health mobilization in times of diaster.

The program was sponsored by the American Medical Associations' Council on National Security and featured USPHS health mobilization for diaster. **Dr. T. E. Eyres,** Vermillion attended the meetings as did associate staff members **J. C. Foster** and **Phyllis Sundstrom.**

NEWS NOTES

Dr. George J. Mangulis, Philip, attended the Mid-Western Clinical Society Meetings in Omaha the later part of October.

* * *

Dr. Mary E. Sanders, Redfield, president of the S. D. Heart Association, attended the annual meeting of the American Heart Association at St. Louis, Missouri, Oct. 21-25.

* * *

Dr. G. J. Van Heuvelen, State Health Director, attended the American Public Health Association convention in San Francisco the early part of November.

* * *

Dr. M. R. Ferrell, a graduate of the University of Colorado, has joined the staff of the Donahoe Clinic in Sioux Falls. Dr. Ferrell was born in Paterson, New Jersey. He took his residency in internal medicine at Fitzsimmons Army Hospital, and took a three-year staff appointment as assistant chief of medicine, 98th General Hospital, Baumholder, Germany, where he served as Assistant Chief of Medicine and Chief of the Medical Chest section.

Dr. V. C. Marr attended the Continuation Course In Dermatology for G.P. Oct. 20-22 at the University of Minnesota.

THIRD DISTRICT HEARS ANDERSON

The Third District Medical Society met in Flandreau on December 8th to hear a presentation on "Pediatric Problems" by Dr. W. R. Anderson of Sioux Falls.

The group also elected officers for the year 1961.

CLARKSON GIFT AIDS ENDOWMENT

A cash gift of $3,000.00 to the South Dakota Medical School Endowment Fund by Herbert W. Clarkson of Buffalo will materially assist medical education in South Dakota. The gift was arranged through the efforts of Dr. Ray Williams of Rapid City, a member of the Endowment Association Board of Directors.

The money will be used for student loans.

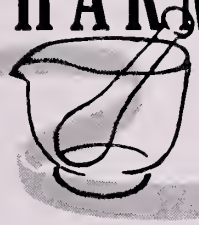
NEWS NOTES

James H. Schaeffer, M.D., for the past year associated with **Dr. V. V. Volin** in Sioux Falls, has opened his own office at 502 South Cleveland.

* * *

Dr. W. L. Meyer has resigned as medical director at the State Sanatorium, Sanator. He has accepted a position with the Veterans Administration in Hot Springs.

PHARMACEUTICAL SECTION



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WHAT IS THE GENERIC EQUIVALENT END PRODUCT?*

By
Newell Stewart**
New York, N. Y.

The subject I have chosen "What is the Generic Equivalent End Product?" might readily be changed to "What Kind of Life Are We Approaching in these United States?" Certain segments of our profession have, during the recent past, been endeavoring to ignore the hard won liberties and privileges we have been taught to revere. The prescription from the physician which we have always considered as inviolable is beginning to become just another scrap of paper which can be altered or changed to suit the particular stock of merchandise that is available on the shelves of numbers of our dispensing facilities.

At the very outset of this talk I want to make it eminently clear that I am definitely **not** against generic names. This terminology is taught in colleges of pharmacy and of medicine and is utilized in our official compendia and, seemingly grossly misunderstood by so many pharmacists, it applies to every item in our armamentarium whether the item carries an additional branded or trade name or not. Generic names per se are fundamental in the classification of drug products.

Now, on the other hand, I also want to make myself perfectly clear on the point of so-called generic equivalent dispensing. When it is practiced as recommended by some of the leaders in certain areas of pharmaceutical practice, it falls into the area that my moral and ethical pharmaceuticel preceptors have taught me to consider as unvarnished substitution.

The American Hospital Association has suggested that the terms "substitute" and "substitution" should be avoided. I do not believe we should try to gloss over any of the unpleasantries existing in our profession. Rather we should endeavor to correct them.

I used the word "so-called" when I referred to generic equivalency because I would seriously doubt that real generic equivalency ever exists. When I make this statement, I am not just alluding to the physical charac-

*At the Joint Meeting of the New York Branch, American Pharmaceutical Association and Southeastern Section American Society of Hospital Pharmacists at The New York Academy of Sciences, October 10, 1960.

**Executive Vice President, National Pharmaceutical Council.

teristics of the drug, but I am also considering the therapeutic activity.

I was most interested in reading a paper presented to the American Society of Hospital Pharmacists in August, 1960 by Dr. Gerhard Levy, of the University of Buffalo School of Pharmacy. Dr. Levy asked two rather pertinent questions:

First: — Are **all** generically identical products truly therapeutically equivalent?

Second: — Are generically identical products produced by reputable and respected manufacturers therapeutically equivalent?

Dr. Levy stated that the purpose of his paper was to show that generic identity does not assure therapeutic equivalence, regardless of whether the products in question are those of reputable manufacturers or of less reputable firms.

In his paper Dr. Levy cited a number of examples which, for the lack of time today, I shall not repeat. However, I would like to use his reference to a paper by Dr. W. Keller published in Die Pharmazie. This paper was quoted as stating that "during the course of a large-scale clinical trial, about 25,000 tablets of prednisone were used. These consisted primarily of two brands manufactured by companies of world-wide reputation. When patients on product A were switched to product B, the healing process stopped or was even reversed. The healing process was reinitiated when drug A was used again. The author of the paper reports that these pharmaco-therapeutic differences were repeatedly reproducible under conditions minimizing possible psychological influences."

I was also interested in an article entitled "Drug Terminology and the Urgent Need for Reform" which appeared in the July 7, 1960 issue of The New England Journal of Medicine. I would like to quote the following from it:

> "The drug manufacturer claims certain advantages for the use of trade names in addition to their protection of his interest in a drug. They ensure that the physician and ultimately his patient will get the drug so designated by the manufacturer. Since the trade-name is an index of his reliability, the reputable manufacturer does his best to ensure that his product is the best he can make it. His standards, indeed, may be even higher than those established by semiofficial bodies such as the United States Pharmacopoeia.
>
> Much effort is put into making most trade-named products pharmaceutically fine and esthetically elegant, factors that are often overlooked by those opposed to the trade-name practice. These factors, however, can be important and at times may contribute very materially to the value of the drug. The added protection afforded by the trade name encourages manufacturers to develop new drugs and thus may be a boon not only to the pharmaceutical industry but to the public as well."

The article went on to say that:

> "Unscrupulous manufacturers would benefit from the widespread use of generic terminology as established at present, and the Food and Drug Administration with its limited facilities might find it impossible to check all drugs put on the market by such manufacturers." (Unquote)

A few months ago I was reading a publication outlining the reasons for the progress that is currently taking place in the Soviet Union. It outlined how their production was divided into two classifications. First, where they concentrate their most capable scientific men on the development of nuclear energy, chemistry, applied mathematics, etc. and second, where they adapt from others the products that have been tested and which are considered the best that other countries could produce. This list would include automobiles, radios, television sets, drugs, etc.

Particularly in the drug field we have noted that the Soviets have failed to develop even one new product. This is undoubtedly true of the other items in this classification. By adapting from others they are relieved of the creative and technical effort plus the experimentation. Their claim is that a tremendous amount of human energy is wasted in the United States where hundreds of our scientists are engaged in this inventive process. By choosing from the hundreds and thousands of the best of the products produced in other countries to copy and produce in the Soviet Union, they claim they release

thousands of their young scientists for work in key revolutionary industries which they claim will ensure their domination of the world.

How like some of our own activities in pharmaceuticals here. The production of generic equivalents is a comparatively easy process; their use in certain of our pharmaceutical dispensaries, leads an aura of respectability to the producer. How unlike our respected American way of life.

Generic Equivalent Outlets

Let us look for a minute at a few of those who are presently utilizing generic equivalent dispensing. It now exists in our welfare departments; hospitals; union drug outlets; the armed services; veterans programs; insurance programs; city, county and state drug dispensaries; cooperative dispensaries; clinic dispensaries; school dispensaries; dispensing physicians; mail order prescription houses; foundations furnishing prescriptions for members and undoubtedly other groups. About the only island of free enterprise in the entire prescription area is the fifty-four thousand independent and chain retail pharmacies.

In his presidential address before the National Association of Boards of Pharmacy, Mr. Robert J. Gillespie said and I quote:

> "If the various proposals to extend the use of generic names should be seriously accepted by the professions and some effort made to implement these proposals, we can, as enforcement officials, expect a mushrooming of these submarginal operators with the eventual results that we shall return to those days of chaos when drugs rarely met prescribed standards and adulteration was the rule rather than the exception. Public confidence in the drug industry might well then be completely shaken. This could spell the end of private initiative in the drug field and bring us all under a regimented system of state or national medicine.

Mr. Gillespie continued:

> "There are certain drawbacks to the use of generic names. First, they very definitely can produce pharmaceutically inferior products compared to pharmaceutically correct products. It is quite possible for a medicinal to assay 100 per cent potency and still not be therapeutically effective if its pharmaceutical properties are not correct. The vehicle, the potency, the disintegration time and other factors may vary. The physician, in prescribing a certain brand name drug, may be doing so because he has found that particular product to be more efficacious than any other for his patient.
>
> "Secondly, generic names endanger the quality of the manufactured product.
>
> "Thirdly, they encourage price as a basis for purchasing.
>
> "The physician should have the assurance that the product he desires for a sick person will be dispensed. The public should be protected against attempts to authorize willful substitution of any product. The physician always has had the privilege of prescribing by generic name or trade name."

Unfortunately human beings tend to gravitate to the extreme. We all like to have the prettiest homes, the greenest lawns, the nicest cars and the finest families. This is the extreme of individual initiative. However, there is another extreme that some of us seem to attempt to achieve — the extreme of mediocrity. This extreme is primarily one that is forced upon us by those who may have the best intentions, but who believe in the supremacy of the state over the individual initiative of the people.

I could name you hundreds of examples of this extreme, but tonight we are primarily interested in one facet — drugs.

All of us in this room subscribe to the theory that our principal endeavor is to make available to a sick person the drug that will bring him from sickness to health at precisely the time it is required. I believe I am correct in stating that we would never subscribe to equating the value of a drug with price, political ambition, individual advancement or economic stability. The person who needs to be brought from sickness to health should not have impediments such as these placed in his path to recovery.

Pharmaceutical Factors as Important as Chemical Content

Let me give you a further example of need for not only careful analysis of the drug

being used in a particular dispensary but also the importance of other considerations besides the actual chemical analysis.

Dr. Walter Modell, Associate Professor of Pharmacology at Cornell University Medical College has recently edited a book entitled "Drugs of Choice 1960-1961." One chapter of this book discussed the choice of drugs in endocrine dysfunction and in that portion relating to the use of thyroid extract in treating hypo-thyroidism it stated and I quote:

> "Thyroid Extract: This compound is the original preparation made available for clinical use and is standardized purely on the basis that the extract has an appropriate percentage of iodine, namely, 0.2 per cent. There are no other specific criteria that must be met. Consequently, an unusual degree of variability may be noted in a patient's response to thyroid extracts made in different commercial houses. Thyroid extract obtained from the gland of a cow killed in Texas, while having the same iodine content per gram as that from a cow killed in Chicago, would not necessarily have the same physiologic activity."

At the recent APhA convention, Dr. Louis M. Orr, immediate past president of the American Medical Association, appeared on a panel program and told of an incident where a clinic patient complained of pains. Stones in the kidney or gall bladder were suspected. Upon examination it was found the patient had one stone and 27 intact tablets of ammonium chloride. He had been taking nine of these tablets a day. Dr. Orr said that the tablets were dispersed in a long line between the mouth and the lower bowel and obviously they were not manufactured properly and their ammonium chloride content was only academic.

Literally hundreds of eminent authorities have discussed the subject of generic equivalent dispensing. It would be impossible in the time allotted to me tonight to dwell on more than a few of them. In the June 1960 issue of the American Journal of Hospital Pharmacy an editorial written by Dr. Don E. Francke stated and I quote:

> "It is quite possible for a medicinal to assay at 100 per cent potency and still not be therapeutically effective if its pharmaceutical properties are not correct. This is another reason for stressing the importance of reliable source of supply."

In the same issue in an article entitled "As the President Sees It" Vernon Trygstad stated and I quote:

> "And how can the pharmacist know the quality of the product he dispenses? That it does measure up to official standards? It is his business to know. Some pharmacists, especially in hospitals, can carry out the tests and assays or have them done. If this is not possible, it may be best to rely upon the reputation and known standards of the manufacturer, and surely this any practicing hospital pharmacist knows or can find out. We might borrow and paraphrase a slogan from the jewelry trade, 'If you don't know the quality of the drug, know the manufacturer.'

The Telegram, a newspaper of Toronto, Canada, Tuesday, August 16, 1960 reporting on a speech made by Dr. C. A. Morrell, head of the Food and Drug Directorate, Department of National Health and Welfare of the Dominion of Canada stated and I quote:

> "Brand name drugs may cost more but they give the best guarantee of safety.
> "Canada's chief drug inspector, C. A. Morrell, said so yesterday.
> " 'You must remember price is not my business," he said.
> 'My job is the safety and purity of drugs.' "

Just where are we going and what will so-called generic equivalents bring to this profession we all cherish? I was interested in a speech by George F. Archambault, pharmacy advisor for the Surgeon General of the U. S. Public Health Service. This speech was given at the 1959 meeting of the American Hospital Association. In it he quoted from the laws of the New York Hospital as follows:

> "A hospital pharmacy may dispense equivalent drugs for those ordered under trade or proprietary names in the treatment of service inpatients and clinic outpatients."

By specifying the type of patient to receive so-called equivalent drugs does Dr. Archambault and the U. S. Public Health Service sug-

gest that hospitals should furnish first and second class prescriptions — one for the private, paying patient and the other for the service or welfare patient?

What Will the Future Bring?

Dr. William M. Heller, Director of the American Hospital Formulary Service in an article appearing in the 1960 summer issue of the American Journal of Pharmaceutical Education stated and I quote:

"Trends in Hospitals"

"What will the future bring? The practice of pharmacy will be greatly changed within the next generation by uncontrollable (by pharmacists) economic, social, political, scientific, and medical pressure outside of pharmacy, We need not dust off the crystal ball — we need only dust off our eyeballs and recognize these forces which are now at work.

"For instance, it is probable that legislation for some form of government-sponsored medical care for the aged will be enacted at this session of the Congress. Is this new? Of course not; we have been fighting it, or at least hearing about it, for years. In fact, the United States of America is the only industrialized country in the world in which such legislation does not exist. Since such legislation will represent a victory of citizen and governmental groups over medical, pharmaceutical, and other private practitioners in the health sciences, is not reasonable to expect that they will compromise so that such care as is initially made available will be dispensed through agencies controlled by citizen and governmental groups: that is, through hospitals rather than through private physicians and private pharmacies? It is estimated that 26 per cent of ethical drugs are now distributed through hospitals — who employ only 4 per cent of the nation's pharmacists."

Let us finally take a good, close look at the statement I have just read.

First, Dr. Heller's opinion is that federal control in the United States over medical care will be a victory for citizen and governmental groups over medical, pharmaceutical and other private practitioners in the health services and

Second — this care will be dispensed through agencies controlled by citizen and governmental groups through hospitals rather than through private physicians and private pharmacies and

Third — that 4% of the nation's pharmacists now dispense 26% of the ethical drugs.

In heaven's name what kind of philosophy is being preached by those who would completely undermine the finest health service available to people in any nation throughout the world. Certainly any of our commodities can be produced, cheaper and faster if that is all we want. However, I believe we prefer to have the freedom to continue to criticize, to think, to create. The central thought of progress begins with pride and a sense of responsibility. Craftsmen and corporate groups of craftsmen like to say: "This is our workmanship. Look to us for responsibility. If it serves you well, turn to us for more of this product." We have long had a small coterie of critics criticizing the right to trademarks. Some were sincere zealots influnced by inaccurate ideas. Others were proponents of total socialization of the kind that now prevails in the Soviet countries. The fundamental issue at stake is individualism vs. collectivism. Let us be certain of this fact — no so-called generic equivalent manufacturer, past or present, has ever pioneered a new product or improved an existent one. For the most part they ride the coattails, travel well blazed paths of maker's brands. If one day, it should become unprofitable to manufacture brand merchandise, on that day the coattails on which all so-called generic equivalents have travelled will be severed. This disaster would be as great to the so-called generic equivalent producers as it would be to the brand manufacturers, and the principal victims would be the people who would fail to have the right drug available at the critical time it could be needed to conquer the disease with which they would be afflicted. What is the so-called generic equivalent end product? Which road shall we choose to travel? Let me close with a story I read the other day:

Four men applying for a job as coachman were asked, "How close can you drive to the edge of a precipice without going over?"

Confidently, the first applicant replied, "I

(Continued on Page 634)

MORE THAN A MILLION AMERICAN SCHOOL CHILDREN ARE DOOMED TO EVENTUAL DEATH FROM LUNG CANCER IF PRESENT TRENDS CONTINUE. The American Public Health Association made this prediction last Fall and called upon "health authorities to undertake a broad educational effort, especially among young people, to prevent cigarette smoking."

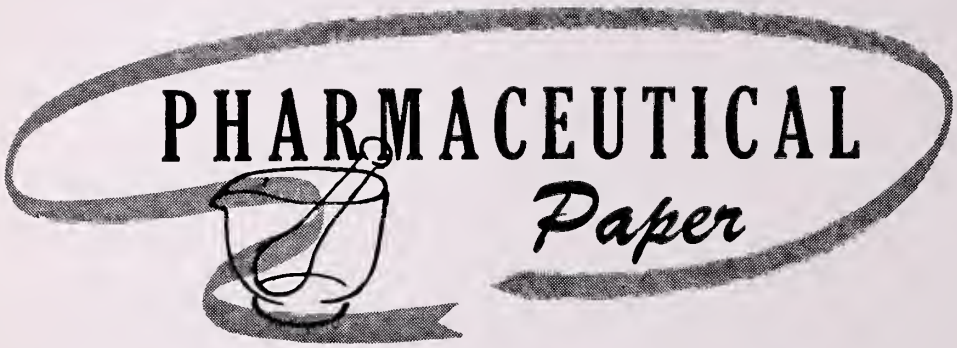
How is this to be done, doctor? As a partial answer, the American Cancer Society has produced a filmstrip, TO SMOKE OR NOT TO SMOKE, based on a recent study of thousands of high school students. This filmstrip is available from the Society's 60 Divisions throughout the country.

The effectiveness of this educational tool will depend on the support of the entire community—teachers, parents and, most of all, physicians. Many physicians are participating in the presentation of the filmstrip.

This is another example of how the medical profession and the American Cancer Society can cooperate in essential public education in the fight against cancer.

AMERICAN CANCER SOCIETY





PODIATRY: NEW MEDICAL SPECIALTY

Napoleon may have said an army travels on its stomach, but 130 million Americans who have suffered from a throbbing, stabbing or numbing pain in the feet are distressingly aware of their own particular method of locomotion.

With the exception of the common cold and dental decay, no human ailment is more prevalent than foot ailments Scores of surveys taken in widely scattered sections of the nation concur remarkably in finding that seven out of 10 adults suffer from painful feet some time in their lives.

The problem begins early. It is estimated that 40 per cent of U. S. children have developed foot ailments by age 6, an appreciable handicap in the 65,000 miles of walking that lie ahead in the average lifetime. There follows a straight-line rise in incidence through childhood, until by high school age, 72 per cent have foot complaints.

Napoleon notwithstanding, American military leaders have their own ideas of how an army travels. In the first draft of World War II, 32 of every 100 rejections were due to some type of serious foot ailment. Of the first 2 million men drafted, 25,425 were rejected by their local boards for foot conditions and another 19,510 were eliminated at basic training. Dr. Joseph Lelyveld, chairman of the National Foot Health Council, says twice as many men were rejected for military service for foot ailments than for any other single reason.

The lament, "My feet are killing me," is a tragically expensive truism. Dr. Marvin Shapiro of Toledo, Ohio, past president of the American Podiatry Association, estimates foot ailments cost American business and industry $125 million each year in absenteeism, production loss, plant accidents, and lowered morale.

Another axiom, "When your feet hurt, you hurt all over," epitomizes the emotional side effects of aching feet. The fatigue and irritation resulting from foot discomfort are reflected in ill temper toward others and inability to enjoy daily activity.

Considering the foot's function, there is little wonder so much misery focuses there. In standing, the foot carries the dead weight of the body. In walking, it is jolted with a foot-pound force amounting to several tons a day. A 150-pound man who walks a mile at three feet a step brings down on his feet a

total work load of 132 tons — 264,000 pounds — in that distance.

Not only must feet serve as supporters and shock absorbers, they also function as levers and catapults. They are masterpieces of anatomical engineering. Of the human organism's 200 or so bones, 52 are in the feet. There are 66 joints, 200 ligaments, 40 muscles, and millions of muscle fibers and blood vessels. Coupled with this marvelous complexity is a corresponding fragility. Feet are easily hurt and are sensitive to pain.

Birth of Podiatry

The needs of the swelling army of afflicted has given rise to the profession of podiatry-chiropody. It is defined as: "that specialty of medical practice which includes the diagnosis and/or the medical, surgical, mechanical, physical, and adjunctive treatment of the disease, injuries and defects of the human foot."

Although it has attained its highest professional level in the last 20 years, the care of the human feet began centuries before the Christian era. There were references to foot treatments in the writings of Hippocrates. Among other ancient Greek writers, Theophratus (born in 372 B.C.) mentioned corns, and Hikesios of Smyrna prepared plaster for the treatment of corns about 100 B.C. Cleopatra, the Egyptain queen, employed specially trained servants who were skilled in use of ointments and lotions to care for her feet, as well as her nails, hair and face.

In more recent times, an Englishman by the name of David Low published in London a book dealing with "corns, warts and bunions and other painful and offensive cutaneous excrescences" and called it "Chiropodologia." Thus, in 1784, the term chiropody came into the professional language.

Napoleon, for all his talk about food, had his foot specialist, Sagrada, and Abraham Lincoln half a century later had his Dr. Isachar Zacharie. Lincoln's large feet were ill at ease in shoes and Dr. Zacharie was in constant attendance at the White House. He not only was Lincoln's foot doctor, but his intimate friend, and was dispatched frequently on important political missions. The two were referred to humorously in the **New York Herald** as "The Head and Feet of the Nation."

Until less than 100 years ago foot care for the general public in America was handled by itinerant corn cutters who traveled about from door to door and county to county. It was not until Nehemia Kenison opened a chiropody office in Boston in 1845, almost opposite historic Old South Church, that patients began coming to chiropodists. Others followed his lead, laying a foundation for the development of podiatry as a profession.

The first such organization was the New York Pedic Society founded in 1895. New Jersey followed with a state society in 1905: Massachusetts, in 1906; Illinois, 1907; Pennsylvania, 1908; Connecticut, 1910; Missouri, 1911.

In 1912, the New York School of Chiropody was founded to teach fundamental principles of medicine and surgery as it relates to the foot.

In the same year, on July 3 in the LaSalle Hotel, Chicago, the National Association of Chiropodists was organized and a professional journal was announced. Forty-six years later, in a national meeting again in Chicago, the organization name was changed to the American Podiatry Association. However, both "chiropody" and "podiatry" are still properly used in referring to the medical specialty. (The difference between them, and the growing acceptance of podiatry is best explained etymologically. Chiropody, composed of the stems of the two Greek words — **chiro** or hand and **pod** or foot — describes the specialty as it once, in its development stages, almost was. Podiatry, made up of the Greek word for foot and the Greek word for healing, is a more exact description of the specialty.)

Modern Podiatry

Far removed from the paring and padding of peripatetic corn cutters, the modern podiatrist is a highly trained scientist who must complete a four-year professional school curriculum at one of the nation's five colleges in order to win a Doctor of Surgical Chiropody or Doctor of Podiatry degree. Each school is subject to inspection and approval by the Council on Education of the American Podiatry Association. Some states require a fifth year of postgraduate training or internship before permitting the state board licensing examination to be taken. Clinical training for all students is obtained in the clinics operated by all of the colleges and serving up

to 50,000 patients a year.

The five colleges, for all of which at least one year of pre-professional college-level training is required, are California College of Podiatry, San Francisco; Chicago College of Chiropody and Pedic Surgery, Chicago; Illinois College of Chiropody and Foot Surgery, Chicago; Maurice J. Lewi College of Podiatry, New York, and the Ohio College of Chiropody, Cleveland. They graduate about 500 foot doctors a year, far short of the nation's needs.

Students are grounded in such basic laboratory and classroom sciences as embryology, gross and descriptive anatomy, dissection, bacteriology, inorganic and organic chemistry, biochemistry, physiology, bacteriology, pathology; in such medical courses as preventive medicine, materia medica and therapeutics, surgery, neurology, psychology, dermatology, orthopedic surgery, roentgenology, diagnosis and chiropedic medicine; in professional courses like surgical chiropody, foot orthopedics, foot gear, physical therapy, and clinical practice; and such other courses as history of medicine, history of chiropody, ethics,and jurisprudence.

About a third of the faculty of each college consists of doctors of medicine. Students are encouraged to maintain a close professional liaison with the other health professions because many systemic disorders such as diabetes, hardening of the arteries, heart disease, anemia, arthritis, gout, and kidney ailments frequently manifest themselves first in the feet. Similarly, doctors of medicine may refer foot problems in their patients to the podiatrist as a member of the health team.

Method of Practice

Most of the nation's 8,100 professional podiatrists — about 7 per cent of them women — are engaged in private practice as general practitioners, although growing numbers are specializing in orthopedics (bone, muscle and joint disorders in the foot), podopediatrics (children's foot diseases) and podogeriatrics (old-age foot disease). Many foot specialists are employed in health institutions or serve in the Armed Forces. About a third of the Veterans Administration hospitals and clinics use the services of podiatrists, as do city health departments and school boards. Several podiatrists serve on the full-time clinical staff of such hospitals as the Mayo Clinic, New England Deaconness Hospital, Georgetown University Hospital, University of Virginia Hospital, Cedars of Lebanon Hospital, and Walter Reed Army Hospital.

Dr. Isadore P. Foreman, surgeon chiropodist at Temple University, and Lankenau Hospital, Philadelphia, says there are about 1,000 public and private hospitals with staff-affiliated podiatrists. Podiatry departments have been set up as offshoots of diabetic clinics, peripheral vascular clinics, metabolic disease departments, dermatologic, surgical, and orthopedic services. In some instances, there is a separate podiatry section whose staff receives patients from all other services in the hospital.

Dr. Elaine P. Ralli of the City of New York's Department of Hospitals and the New York University College of Medicine has said of podiatry: "I know of no hospital service which gives greater relief to patients." Dr. Elliott P. Joslin of Harvard Medical School who is credited with starting the first hospital chiropody clinic (in 1927 at the New England Deaconness Hospital in Boston), said: "The work done by chiropodists, particularly for diabetic patients in hospitals is invaluable." Dr. Horace Gray, of Los Angeles has said: "As a result of chiropodical vigilance . . . at the Cedars of Lebanon Hospital in Los Angeles . . . the incidence rate was wonderfully reduced for hospitalization from diabetic gangrene and amputations to 27 per cent of the prior rate."

Scope of Podiatric Service

Popular understanding looks upon problems of the foot as consisting of corns, bunions and ingrowing nails, with perhaps a touch of athlete's foot in the summer. But there are some 75 ailments affecting feet; and there are 23 diseases producing foot symptoms which are frequently diagnosed through foot inspection.

Foot troubles can arise from a host of basic causes, including factors that are congenital, such as clubfoot or other malformations; hereditary, such as extra toes, overlapping toes, or hammer toes; circulatory, such as thromboangiitis, an inflammation and narrowing of the arteries of the legs; nutritional, such as rickets; metabolic, such as diabetes or gout; traumatic, like fractures, sprains, and dislocations; infections, like fungus disease;

neurogenic, such as poliomyelitis or cerebral palsy.

In addition, there are such envirnomental factors as strain, overwork, overweight, constrictive hosiery, ill-fitting shoes, and abuse and neglect of the feet. This can lead to painful veruccae (warts) and other non-malignant tumors, blisters, bruises, callosities, bunions, helomas (corns), ingrowing and dystrophied toe nails, pronated and flattened feet, weak ankles, excessive sweating of feet, burning soles, heal spurs, neuralgias, postural defects and poor walking gait.

Of all environmental factors, the greatest offender is the improperly fitted shoe, particularly in the case of women. This accounts for the fact that the majority (about 80 per cent) of podiatry patients are women. The dictates of fashion and vanity have driven millions into shoes that are not only incorrectly shaped for the foot, but also titled by a heel so high that toes are shoved forward into a cramping, pointed area. The shift of weight from the ball of the foot to the toes destroys the graceful heel and toe motion of normal walking.

The podiatrist treats and rehabilitates through use of prescribed medications; through such modalities of physical medicine as plastic casting, adhesive strapping, bracing, splinting, padding, whirlpool and paraffin baths, appliances and short-wave and low-voltage currents; and through surgery, including use of anesthetics.

In diagnosis, he employs conventional methods, including x-ray, blood tests, urinalysis, and germ culturing.

Of all podiatry patients, the fastest growing group is that of the aged. In a society that sees more and more persons living to 65 and over, podiatrists are devoting an increasing amount of their time to podogeriatrics. Health care of the aged was the theme of the 1960 scientific convention of the American Pediatry Association.

Dr. Abe Rubin, Secretary of the American Podiatry Association, has pointed out: "The number of older people coming to podiatry offices now comprise almost 50 per cent of the patient load."

In one of the nation's largest foot clinics, a survey has shown, two-thirds of the visits are made by patients over 65.

A study conducted by the American College of Foot Orthopedists, an affiliate of APA, reveals that 70 per cent of the elderly have foot trouble and, of these, half are unable to do any work or participate in any activity that would keep them on their feet for any worthwhile period. They tend to withdraw to the "old rocking chair" and become inactive to the point of disuse atrophy of muscles.

"Old people must move about," Dr. Rubin continues. "If poor foot health makes them homebound, significant medical, social, economic and psychological disadvantages ensue. They become family and public charges with deleterious impact on the family and society at large. But, more important, these older people cannot utilize all of their skills and interests to find social contacts which could make the gift of added years of life a period of reward and satisfaction."

Foot trouble afflicting the aged stems not only from a lifetime of foot abuse but also from pathological changes brought on by process of aging. Along with the gradual slowing of metabolism, narrowing and hardening of blood vessels, tissue drying, atrophy, and degeneration, have come the problem of arteriosclerosis with increasingly poor circulation of the blood. This has given rise to pain on walking, cold feet, night cramping, numbness, and blood-deficiency ulcers. In extreme conditions, there may be gangrene, which may lead to amputation of the toes, or foot, or even the leg below the knee.

Various types of treatments have been tried for occlusive vascular disease of the extremities. Surgery, including by-pass grafts of segments of the artery, and sympathectomy, an operation severing certain nerves to reduce tension on the blood vessels, have been tried with a modicum of success. But Dr. Patrick J. Kelley of Mayo Clinic cautions that not all patients, particularly the geriatric group, are good candidates for surgery.

Other recent advances in surgery include a new operation developed by Dr. Henri DuVries for correction of intractable pain points on the ball of the foot. This operation, in which incision is made on the top of the foot to remove abnormal bone growth, is coming into wide use among medical doctors and doctors of surgical podiatry to replace older, radical bone surgery. It is the opinion of

Dr. DuVries (who is both an M.D. and D.S.C.) that great advances remain to be made in this field. Foot surgery today is "primitive," he says, because so little is taught about the foot in medical schools. "Ten times as much is taught about the hand, yet for every hand patient there are ten foot patients."

Research is going forward also in the mechanics of locomotion. The muscles of the leg and foot do not act as individual units, although they have been studied and treated as it they did. Instead, these muscles and tendons act in chain-reaction fashion and research is showing how mechanical therapy involving, presumably, one muscle may actually affect others remote from it.

Recent research also has expanded the field of medicines that can be used effectively in treating foot ailments. Injected vitamin A has been shown to produce softening and regression of warts. Cortisone and its analogues have come into wide use for treatment of arthritides of foot joints and for systemic conditions that affect the foot. Recently, also, fungus infections of the foot — athletes foot and similar fungus infections — have been treated systemically with griseofluvin, a new antibiotic with specific antifungal properties. Dr. Raymond K. Locke of Hackensack (N. J.) Hospital has been a pioneer in both these areas.

A long search has been conducted for a drug that would make possible conservative management of the patient with peripheral circulatory disease producing foot symptoms. Among agents recently becoming available have been a new class of vassodilators, drugs that improve blood flow in the legs by causing the diameter of the arteries to increase. With them, an entirely new field of physiology has been opened for investigation — an area that goes beyond such drugs as adrenalin which dilate the vessels of the leg muscle but, at the same time, constrict the vessels of the skin.

The Selective Effect

Consideration of this double action of adrenalin has now led to the development of an analogue, nylidrin hydrochloride (phenyl-2-butylnor-suprifen hydrochloride) made available as Arlidin. This drug dilates arteries in muscle without causing the contraction of arterioles in the skin.

Golden Anniversary

In 1962, the American Podiatry Association will celebrate its fiftieth year with its stature as a strong contributing member of the health team firmly established. As the American Medical Association has said in a report by its judicial council: "Chiropody (podiatry) is a practice ancillary to medical practice in a limited field . . . General opinion seems to be that chiropody fairly well satisfies a gap in medical care that the /medical/ profession has failed to fill."

In the face of the nation's mounting foot problem, the new goal of foot specialists is prevention. Emphasis is being placed on detection of foot problems at an early age when treatment is simpler and less expensive. As a result of recommendations by the podiatric profession, several states have passed laws making it mandatory for school children to have an annual foot examination. The day is near when a complete health examination can be truly characterized as head-to-toe.

PHARMACY PAPER—

(Continued from Page 628)

can drive your coach within 18 inches and never go over." The second man said, "I can drive within 12 inches of the cliff's edge and never go over." The third man boasted, "I can drive along the very rim of the precipice and never even push over a rock." But the fourth and last applicant said earnestly, "I'd stay as far away from the edge of that cliff as I could, Sir!" Do I need to tell you which man got the job?

PRESIDENT'S PAGE



I have just returned from the National Association of Retail Druggists Convention that was held at Denver, Colorado, October twenty-second through the twenty-seventh. There is no doubt in my mind that each year's convention is becoming more interesting and beneficial to all druggists throughout the United States.

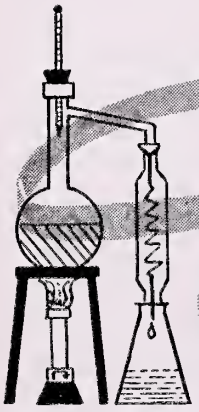
We can no longer consider our particular locality our own and deal with our problems individually. Everything that concerns Pharmacy is a national concern and has to be dealt correctly collectively.

I urge each pharmacist to read the October issue of the National Association of Retail Druggists Journal. Offer particular attention and sufficient time to read President Ralph R. Rooke's address; Chairman Williard B. Simmons Executive Committee report; and Executive Secretary John W. Dargavel's message. Those reports will explain what has been done in the past and those problems our profession is confronted with now.

What is told to us in these three messages is very important and outlines what we have to do to strengthen our profession of pharmacy.

Yours sincerely,

Albert H. Zarecky, President



Advances In Drug Research

PENICILLIN MADE TO ORDER

The story is told in the eminent British journal, **The Lancet,** of a child who swallowed in one sitting the entire week's course of an oral form of penicillin which her doctor had prescribed for her. This form of the famous antibiotic was then new and the physician had no way of knowing what the results of so massive an overdose would be; he rushed her to the hospital.

"What's the trouble?" his chief asked.

"Well, pneumonia. But the child's also just swallowed about five million units of an oral penicillin."

"Oh, that's no earthly good," the chief said testily. "Give her half a million units intramuscularly."

The anecdote well illustrates the longevity of the search for an oral form of penicillin — for this pioneer antibiotic was discovered as long ago as 1928 — and the mistrust which many physicians still feel toward the efficacy of penicillin when taken by mouth.

With the discovery of alpha-phenoxyethyl penicillin, however, a truly trustworthy penicillin which can be taken by mouth has now become available. It produces exceptionally high blood levels.

The Molecular Ghost

To the medical historian, **The Lancet's** little story might also serve as a fitting memorial to one of the most difficult problems yet encountered in biochemistry. Through penicillin is produced in quantity by one of the more common molds in nature, its molecular structure is so complex — and indeed so unlikely as to be unique in nature — that it was not completely known for nearly 15 years after its discovery.

Attempts to synthesize penicillin were carried on throughout World War II by British and American scientists under the direction of Dr. Hans T. Clarke, head of the joint British-American penicillin synthesis project in World War II. Finally, in 1950, Dr. John C. Sheehan of Massachusetts Institute of Technology managed to put together a biologically inactive form of the molecule; seven years later, he achieved an active one. The steps involved, however, are so many and so elaborate that they are not adaptable to mass production; for that, industry must still depend upon deep-tank fermentation of the lowly mold.

The complexity of the molecule also con-

tributed to penicillin a high degree of instability in many ordinary situations. Indeed, it seemed to the early investigators that penicillin disintegrated on nothing more than a black look, or a wrong number on the laboratory telephone, leaving behind a test-tube full of useless molecular fragments and a peculiarly penetrating barnyard odor. At first, it seemed most unlikely that the antibiotic could ever be produced in useful quantities.

A crash program for work on the production problem was launched by the U. S. government in 1941 through its Office of Scientific Research and Development. OSRD at first enlisted the aid of three of the nation's leading pharmaceutical manufacturers: Pfizer, Squibb and Merck. Eventually about 20 other firms joined the program.

Penicillin was in mass production by June, 1943 — penicillin stable enough to be placed on pharmacy shelves, and carried with confidence in the physician's black bag. There is, however, one enormously important area in which the classical penicillin G molecule remains as ghostly and elusive as ever: the human digestive system. Penicillin G is largely inactivated in an only moderately acid solution, such as is normal in the stomach. This means that it can be given with best success only by injection.

There are, of course, many other antibiotics now available to the physician which can be given orally, and they have saved thousands of lives at the most conservative estimate. Nevertheless, penicillin still retains an important and privileged position. Of all the drugs ever given, penicillin is perhaps the least toxic, and this remains true despite the fact that a number of people have become allergic to it.

In addition, penicillin remains one of the most effective anti-bacterial compounds discovered in the whole of the Age of Chemotherapy. Though a number of other antibiotics also act against diseases which are amenable to penicillin, it is still the drug of choice in most of these diseases, particularly certain of the pneumonias, and the streptococcal diseases such as scarlet fever and bacterial endocarditis. The broad-spectrum antibiotics have their greatest value in diseases which penicillin does not touch, and there are many of these. But within its own range of activity, penicillin is unsurpassed.

The Search Progresses

It is not surprising, therefore, that some of the world's finest biochemists have devoted years of study to the problem of creating a form of penicillin which would resist the activity of the gastric juices, and hence pass from the gastrointestinal tract into the bloodstream without significant loss of its germ-fighting activity.

The difficulties involved are well reflected in the experience of biochemists Dr. H. T. Huang and Dr. T .A. Seto. A few years ago, Dr. Huang undertook to make his own study of the problems of synthesizing new forms of penicillin, working from a background of Pfizer's long experience in the mass production of penicillin and many other useful antibiotics such as Terramycin and Tao. He was joined later by Dr. Seto.

The first big problem confronting them was that of obtaining the nucleus of the penicillin molecule, a compound known as 6-amino-penicillanic acid (6-APA). Production of this substance was eventually accomplished by a unique new fermentation process, based on an enzymatic hydrolysis of penicillin G to 6-APA and phenylacetic acid. The method for producing 6-APA is an excellent example of research ingenuity.

Starting from the hypothesis that certain microorganisms might contain an enzyme capable of splitting off the side chain from the penicillin nucleus, intensive screening studies were initiated, eventually resulting in the isolation of several bacteria possessing the important enzyme.

At the same time, methods were being evaluated for producing 6-APA **in vivo.** Various screening techniques were used to demonstrate that penicillin G was converted to 6-APA in both the animal and the human being. During this phase of the research, chemical analyses were made on such diverse samples as human urine and mouse tissue homogenate. The successful development of a culture from the test tube screening program made it unnecessary to continue this other line of research.

The next step was to scale up from the test tube to production-size equipment.

The Pfizer method for producing 6-APA is

completely different from that reportedly developed by the Beecham-Bristol group who are also working in this area. It is understood that they make 6-APA by direct fermentation and do not start with penicillin G. The Pfizer process, on the other hand, involves:

1. Propagation of a selected strain of microorganisms through several fermentation stages.
2. Addition of penicillin G to the fermenter after sufficient cell growth has been obtained.
3. Reaction of the penicillin G to form 6-APA.
4. Selective recovery of the 6-APA.

With the nucleus available in quantity, chemists developed a number of methods of linking the second major building-block of the penicillin molecule — the side chain. These methods allowed them to attach many side chains to the molecule, so that more than 1200 new penicillin compounds have since been produced in the Pfizer research laboratories. Many of these compounds show unusual and unexpected activities, including in some cases qualitative changes in biological spectra — that is, activity against bacteria not normally attacked by penicillin at all — and are now undergoing further study.

One of these new penicillins was the alpha-phenoxyethyl derivative, an highly absorbed oral penicillin, discovered by Dr. Huang and Dr. Seto after nearly 700 other synthetic penicillins had been made and tested in the laboratory. It is produced by coupling 6-APA with alpha-phenoxypropionyl chloride.

The anti-bacterial spectrum of this new penicillin is substantially the same as that of the classical injectible penicillin G, or of oral penicillin V. However, when taken orally it produces blood levels nearly twice as high as those afforded by penicillin V, and gives higher blood levels even when taken with meals than are attainable with penicillin V in a fasting stomach. And orally it produces blood levels higher than those produced by the ordinary intramuscular dose of procaine penicillin G itself.

A Mirror up to Nature

The penicillin molecule resulting from this difficult technical feat — a substantial improvement upon the molecule produced by the **Penicillium** mold — has the generic name alpha-phenoxyethyl penicillin. It occurs in two forms each one a mirror image of the other.

The more active against bacteria is the L (levo) isomer; the other is the D (dextro). Maxipen, Pfizer's tradename for this drug, contains about 60-70 per cent of the L-isomer, in accordance with Federal analytical standards, which specify that a product of this kind must not contain less than 25 per cent of the D-isomer.

Maxipen does not appear to be active against bacteria resistant to other forms of penicillin, nor does it appear to be less allergenic than other oral penicillins. However, oral penicillin generally produces fewer and less severe allergic reactions than do the parenteral forms of the antibiotics.

Additional improvements in this area may well emerge from new studies of the synthetic penicillins now in the laboratory.



SDSC RECEIVES DENTAL-PHARMACY GRANT RENEWAL

Renewal of the dental-pharmacy research grant at South Dakota State College has been received from the National Institute of Dental Research of the U. S. Department of Health, Education and Welfare.

President H. M. Briggs announced that the second-year grant will be for $13,-777. The three-year grant for the study was for $42,653.

The study concerns the relation of body protein to the process of tooth decay. Protein-producing drugs are being tested to determine whether they are instrumental in producing teeth which are more resistant to decay.

Harold S. Bailey, professor of pharmaceutical chemistry and director of dental-pharmacy research, said that radiation techniques will also be introduced into the study.

Being used in the research are several hundred rats which are fed a special diet which is known to produce tooth decay similar to that in humans. One group of rats receives the drugs while a control group does not.

Teeth of the rats will be examined for evidence of tooth decay and will be compared by special scientific methods.

Radio-phosphorous will be injected into the animals, and measurements will be made to determine how much of it gets into the tooth structure, Dr. Bailey said.

Prior to the grant, preliminary studies had been conducted for three years. These were supported by the South Dakota Pharmaceutical Association, the South Dakota Dental Association and Dr. Kessler, **Brookings** dentist, as well as by the Division of Pharmacy at State College.

Assisting Bailey in the research project are Stanley M. Shaw, dental-pharmacy research associate, Dennis Hoogland, graduate research assistant, and James C. Sheets undergraduate research assistant.

T. C. RUTHERFORD SPEAKS

T. C. Rutherford of the Rutherford Drug Company, Winner, South Dakota, recently spoke to the Senior students of the Division of Pharmacy, South Dakota State College. He spoke on agricultural pharmacy and its relation to the practice of pharmacy in rural areas.

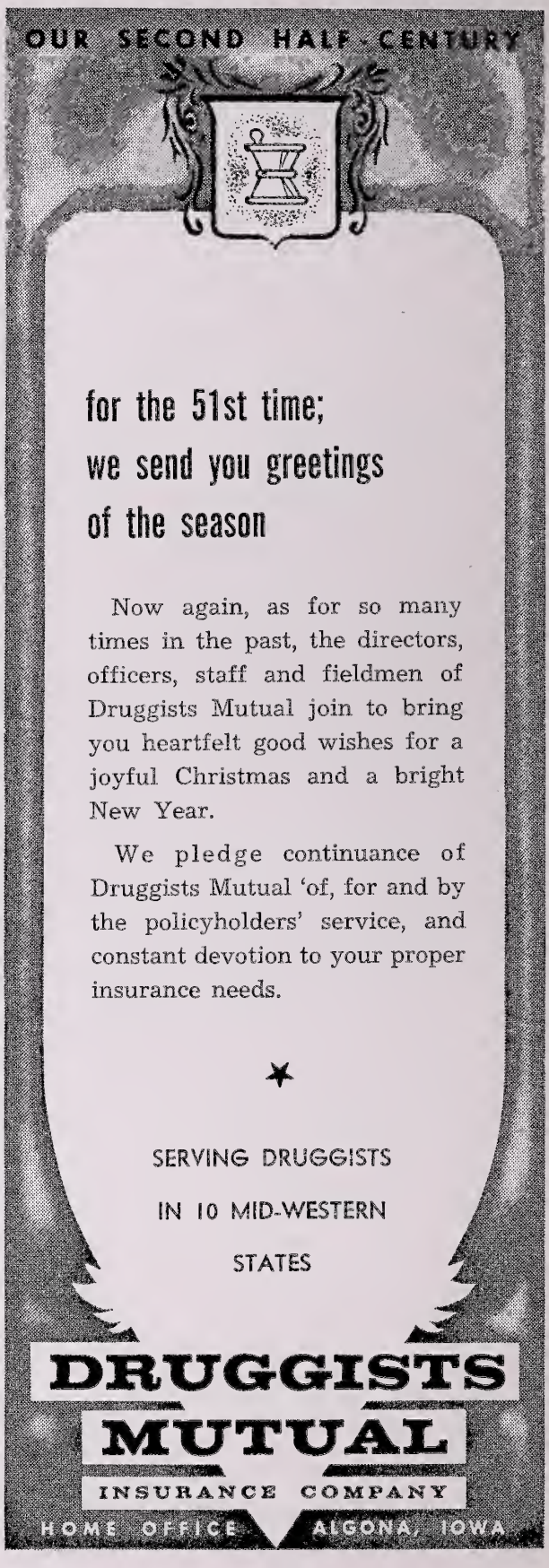
REDMAN APPOINTED TO A.Ph.A. COMMITTEE

Kenneth Redman, Professor and Head of the Department of Pharmacognosy, Division of Pharmacy, South Dakota State College, has been appointed a member of the Committee on Botanical Nomenclature of the Scientific Section of the American Pharmaceutical Association. Term of the appointment is for the year 1960-1961.

The committee works on problems concerning the scientific names of medicinal plants.

AIHP URGES WRITING OF STATE HISTORIES

Pharmacy in South Dakota, and every state of the Union, deserves "planned effort to preserve its records and to find an author who can translate these records into a sound story of pharmacy's part in health progress of the state through the years." In urging state associations to foster such projects, the American Institute of the History of Pharmacy commended, as recent examples of valuable state contributions, the book-length "Drugs and Pharmacy in the Life of Georgia" by Dean-Emeritus Robert C. Wilson of Athens, and a history of the School of Pharmacy at the University of Pittsburgh by Dean-Emeritus and Mrs. Edward C. Reif of Pittsburgh.



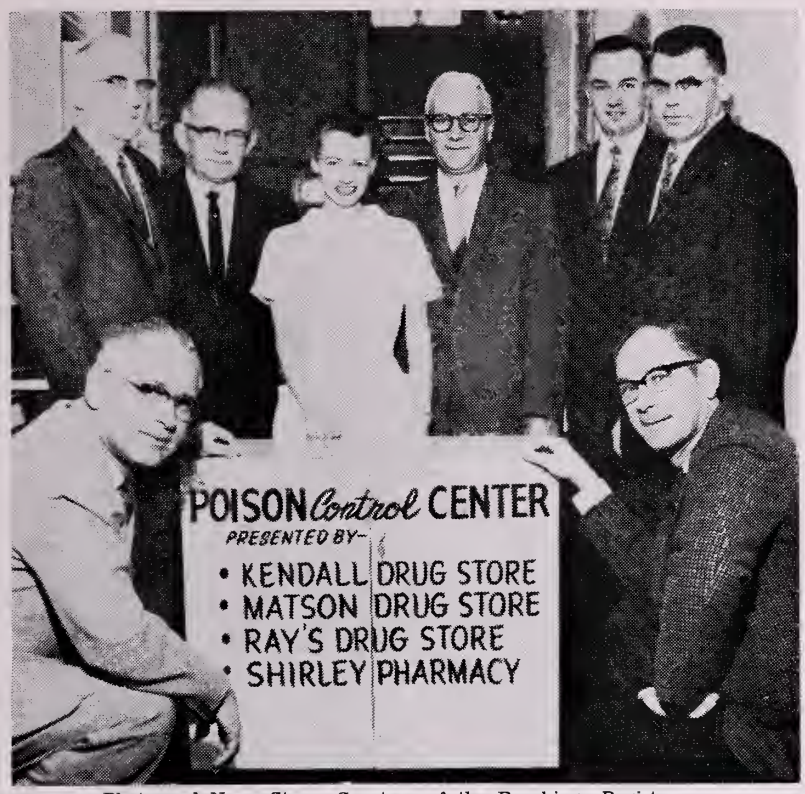


Photo and News Story, Courtesy of the Brookings Register

This was the scene as Brookings pharmacists this week presented a poison control center to the Brookings municipal hospital.

Kneeling in front left is Dr. M. C. Tank, while Dr. Charles R. Turner is at the right. They represented the Brookings and Watson clinics, respectively.

Standing, left to right, are Floyd J. LeBlanc, pharmacy dean at South Dakota State College; Richard Kendall of Kendall Drug; Mrs. Betty Lindsay, Ray's Drug; Robert Matson, Matson Drug; Ronald Hanson, municipal hospital administrator, and J. C. (Chan) Shirley, Shirley Pharmacy.

POISON CONTROL CENTER GIVEN BY PHARMACIES

A poison control center, a guard against death by accidental poisoning, was established at the Brookings municipal hospital recently as a gift of four local pharmacies.

The center includes a cabinet containing antidotes for almost every known type of poisoning; an alphabetical, cross-referenced list of cabinet contents; and a text presenting, in a readily accessible fashion, information on the ingredients, toxicity, antidotes and follow-up treatment of more than 15,000 household and commercial products.

Pharmacists Richard Kendall, Robert Matson, W. C. Ray and J. C. (Chan) Shirley of Brookings presented the center to the hospital as a public service. Assisting with the plan was the South Dakota State college pharmacy division headed by Dean Floyd J. LeBlanc.

Similar centers have been and are being established in many hospitals. One of the main advantages of this center is that all procedures involved in its use have been outlined and simplified. This factor makes it particularly adaptable to the small hospitals.

Accidental ingestion of poisonous materials by children is steadily increasing. A lengthening list of deodorants, depilatories, detergents, herbicides, insecticides, rodenticides, petroleum products, sedatives, stimulants and analgesics contribute to the magnitude of the problem.

The history of poison control centers dates back to 1953, when the first one was organized in Chicago. Since then, hundreds of centers have been established throughout the country.

The physicians, although well informed concerning toxic effects of most medicinal agents, cannot be expected to know or remember the ingredients or to realize the potential harmfulness of the numberless commercial products found in the home. Reliable, up-to-the minute information regarding their contents, their possible toxicity and the proper means of combating accidental poisoning by them must be instantly available.

The poison control center supplies that information as well as all possible antidotes. The easily available information and antidotes might well save a life in time of emergency.

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Order of Frequency of Presenting Symptoms in 110 Patients

Symptoms	No. of Patients	Per cent of total group
Polyuria	93	84.5
Polydipsia	89	81.0
Weight loss	47	42.7
Polyphagia	28	25.4
Anorexia	16	14.5
Lethargy	14	12.7
Enuresis	7	6.4
Vomiting	5	4.5
Irritability	3	2.7
"Craving for sweets"	3	2.7
"Sticky diaper"	3	2.7
"Strong odor to urine"	2	1.8
Glycosuria	2	1.8
Hypoglycemia	2	1.8
Personality change	1	0.9
Boils	1	0.9
Headache	1	0.9
Abdominal cramps	1	0.9

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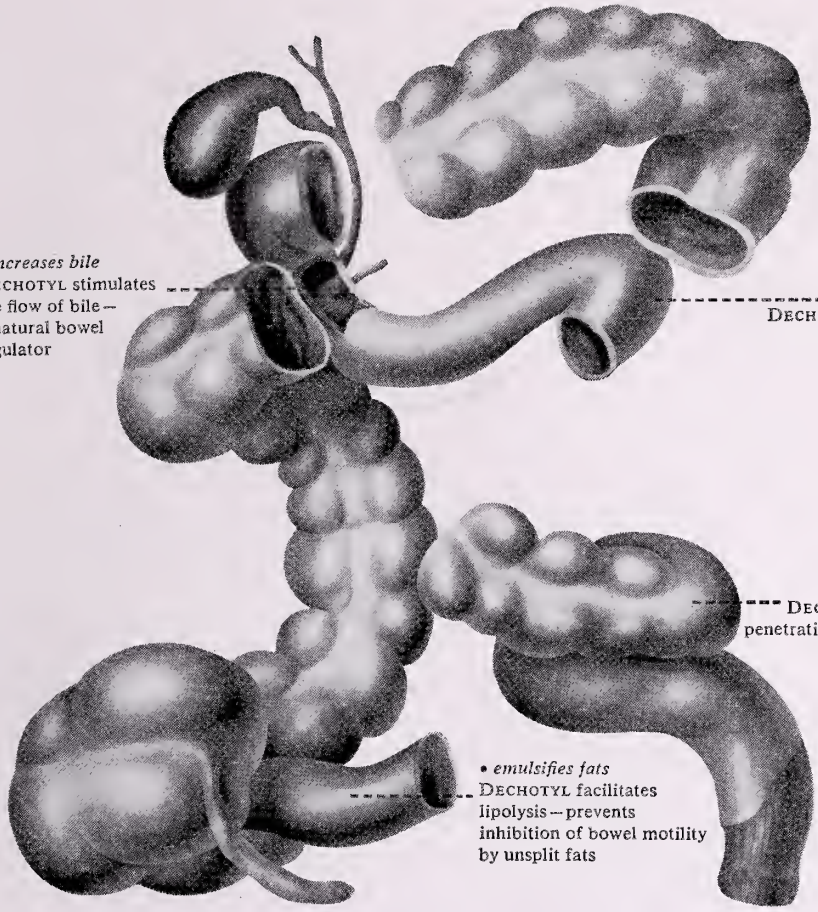
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